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PHYSICIAN COMPENSATION IN THE UNITED STATES

3.1 An Overview

Understanding the ways in which physicians are paid is important for at least two reasons. First, while physician spending is only about one-fifth of the total health expenditures (Table 1), the physician is the central figure in making decisions with respect to the use of an estimated 70 percent of all health services. The physician prescribes treatments, drugs and diagnostic tests; admits patients to the hopsital; schedules and performs in-patient treatments; and decides when a hospitalized patient can be discharged. Second, during the last decade the nation's stock of physicians has increased rapidly relative to population and that sustained future growth in the physician population ratio is expected (Table 2). This increase has major impact on future health care expenditures and physician distribution.

The financial arrangement for physicians' services in the United States can assume numerous forms. Three distinct facets, however, characterize every such financial arrangement; there is a fiscal nexus between:

A. Individual consumers and physicians;

B. Consumers and third-party payers, both public and private; and

C. Third-party payers and physicians.

Figure 1 depicts the process of physician compensation and the three distinct facets of the relevant financial arrangements: direct payment from consumers to physicians, insurance premium payments from consumers to third-party, and payments from third-party to physicians. Direct payments to physicians from consumers (facet A) can come from two main sources: consumers whose insurance policies require them to pay out-of-pocket a certain amount of deductibles and coinsurance; and consumers who are not covered by any health

TABLE 1

National Health Expenditures by Type of Expenditure, Selected Years, 1929-1990

	Historical Estimates, Year[1]											
	1929	1940	1950	1955	1960	1965	1966	1967	1968	1969	1970	1971
	Amount (in millions)											
Total	$3,649	$3,987	$12,662	$17,745	$26,895	$41,994	$46,389	$51,939	$58,456	$65,988	$74,903	$83,112
Health Services and Supplies	3,436	3,868	11,702	16,884	25,185	38,551	42,772	48,180	54,403	61,236	69,583	77,065
Personal Health Care	3,202	3,548	10,885	15,883	23,680	36,000	39,853	44,880	50,766	57,276	65,372	71,979
Hospital Care	663	1,011	3,851	5,900	9,092	13,885	15,682	18,251	21,019	24,016	27,799	30,769
Physicians' Services	1,004	973	2,747	3,689	5,684	8,473	9,175	10,142	11,104	12,648	14,340	15,918
Dentists' Services	482	419	961	1,508	1,977	2,809	2,984	3,360	3,673	4,197	4,750	5,068
Other Professional Services	252	174	396	562	862	1,033	1,159	1,258	1,424	1,471	1,595	1,628
Drugs and Medical Sundries[2]	606	637	1,726	2,384	3,657	5,212	5,584	5,984	6,674	7,383	8,208	8,668
Eyeglasses and Appliances	133	189	491	604	776	1,211	1,426	1,508	1,754	1,874	1,926	1,970
Nursing Home Care	—	33	187	312	526	2,072	2,356	2,776	3,380	3,805	4,697	5,635
Other Health Services	62	112	526	924	1,106	1,305	1,486	1,612	1,739	1,880	2,058	2,323
Prepayment & Administration	139	167	456	624	1,091	1,736	2,093	2,402	2,592	2,731	2,791	3,321
Government Public Health Activities	95	153	361	377	414	814	825	898	1,046	1,229	1,420	1,764
Research and Construction of Medical Facilities	213	119	960	861	1,710	3,443	3,617	3,759	4,053	4,752	5,320	6,047
Research	—	3	117	210	662	1,446	1,555	1,695	1,801	1,835	1,889	2,040
Construction	213	116	843	651	1,048	1,997	2,062	2,064	2,252	2,917	3,431	4,007

	Historical Estimates, Year[1]								Projections		
	1972	1973	1974	1975	1976	1977	1978	1979	1981	1985	1990
	Amount (in millions)								Amount (in millions)		
Total	$93,501	$103,045	$116,284	$132,120	$148,872	$169,875	188,643	$212,199	$278,543	$462,229	$821,017
Health Services and Supplies	86,994	96,291	108,907	123,822	139,823	160,794	179,113	202,318	266,618	444,575	794,590
Personal Health Care	80,177	88,688	101,007	116,522	131,276	147,967	166,627	188,551	246,686	440,288	731,438
Hospital Care	34,974	38,673	44,768	52,141	59,808	67,721	75,842	85,342	112,277	190,528	356,069
Physicians' Services	17,162	19,075	21,245	24,932	27,565	31,862	35,802	40,589	52,862	87,494	150,319
Dentists' Services	5,625	6,531	7,386	8,237	9,448	10,535	11,894	13,607	18,054	29,863	52,022
Other Professional Services	1,802	1,973	2,230	2,619	3,202	3,686	4,080	4,687	6,343	10,858	19,139
Drugs & Medical Sundries[2]	9,344	10,060	11,036	11,813	12,781	13,967	15,374	16,975	20,636	29,581	44,434
Eyeglasses and Appliances	2,215	2,480	2,707	2,982	3,219	3,491	3,946	4,363	6,333	7,986	12,559
Nursing Home Care	6,457	7,217	8,567	10,106	11,300	12,810	15,102	17,807	24,485	44,585	81,788
Other Health Services	2,597	2,680	3,068	3,692	3,953	4,006	4,587	5,180	6,652	10,365	16,371
Prepayment & Administration	4,811	5,370	5,169	4,143	4,734	8,511	7,202	7,720	11,629	18,872	32,441
Government Public Health Activities	2,006	2,233	2,731	3,157	3,813	4,316	5,284	6,047	8,296	15,303	30,289
Research and Construction of Medical Facilities	6,508	6,754	7,377	8,298	9,049	9,081	9,529	9,882	11,922	17,648	26,421
Research	2,267	2,438	2,702	3,239	3,635	3,809	4,323	4,615	5,814	9,054	14,381
Construction	4,241	4,316	4,675	5,059	5,414	5,272	5,206	5,267	6,108	8,594	12,040

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[1] Robert M. Gibson, "National Health Expenditures, 1979" *Health Care Financing Review*, Summer 1980, pp. 21-22. Data for some years are unpublished.

[2] Research and development expenditures of drug companies and other manufactures and providers of medical equipment and supplies are excluded from "research expenditures," but are included in the expenditure class in which the product falls.

SOURCE: Mark S. Freeland and Carol E. Schendler (1981), Table 6, p. 112.

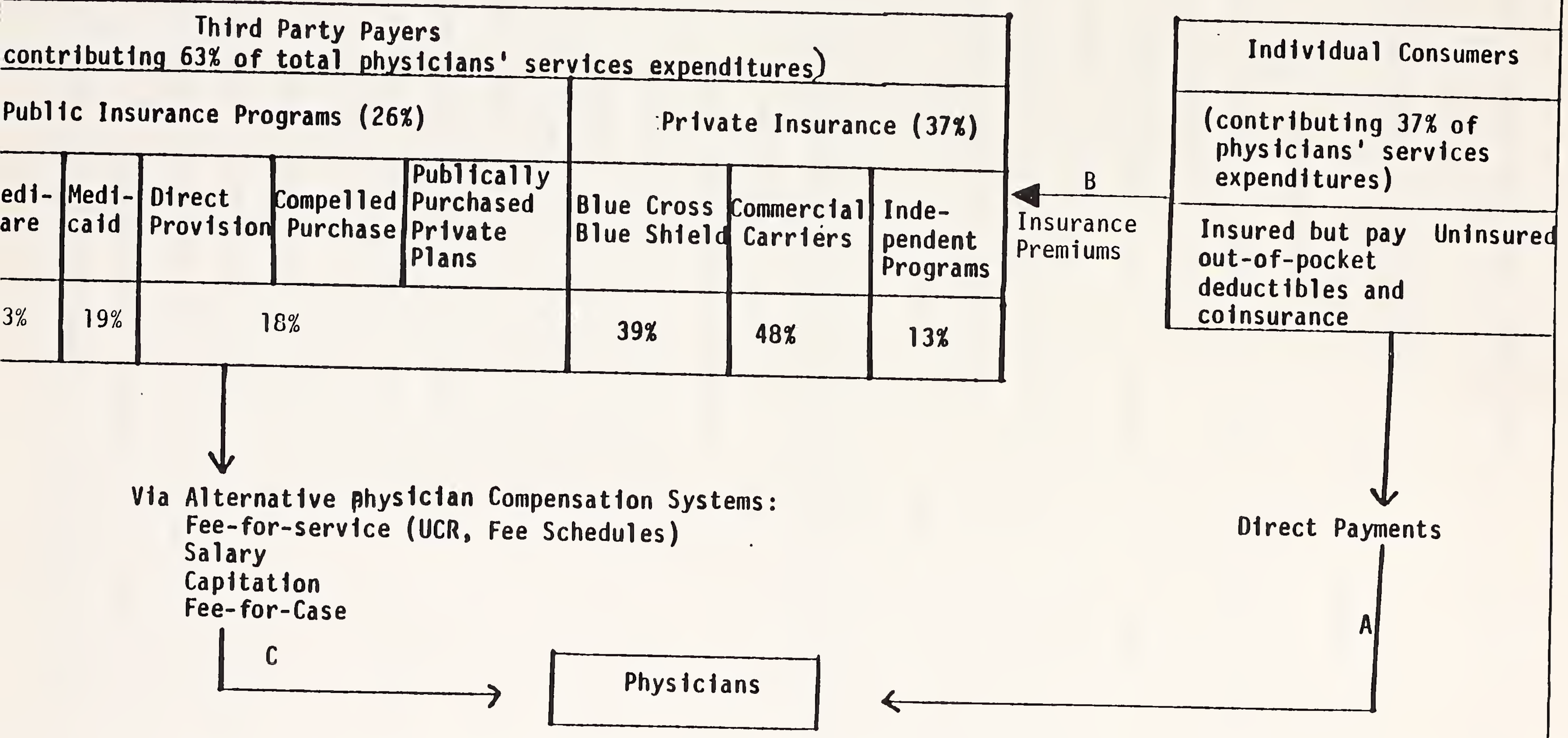
Table 2 - Non-Federal Physicians, Civilian Population, and Physician-Population Ratios, 1969 to 1978

Year	Civilian Population As of January 1 Following Year	Non-Federal Physicians As Of December 31		Physicians Per 100,000 Population	
		Total	Patient Care	Total	Patient Care
1969	200,466,000	290,942	245,368	145	122
1970	203,109,000	298,745	252,778	147	124
1971	205,496,000	309,685	261,335	151	127
1972	207,306,000	322,836	266,587	156	129
1973	208,951,000	331,070	270,412	158	129
1974	210,555,000	342,611	276,070	163	131
1975	212,308,000	356,560	285,345	168	134
1976	213,889,000	369,794	292,152	173	137
1977	215,620,000	386,787	312,872	179	145
1978	217,435,000	404,190	322,835	186	148

SOURCE: American Medical Association "Profile of Medical Practice 1980" Table 12.

FIGURE 1

PHYSICIAN COMPENSATION IN THE UNITED STATES -- AN OVERVIEW



insurance. In 1979 roughly 37% of the total payments for physicians' services were made directly by consumers.

Direct Payments from Consumers to Physicians

According to one extensive survey study, in 1977 approximately 184.8 million persons, or 87.4% of the civilian noninstitutionalized population, had some form of health insurance coverage.[1] The degree of coverage and the amount consumers pay out-of-pocket in the form of coinsurance and deductibles vary significantly from one insurance plan to the other. For example, so-called major medical insurance may pay all the costs of illness or may provide for cost-sharing or coinsurance after the consumer has met very substantial deductibles on his own. A variation on major medical insurance is the disease-specific policy, (e.g., cancer policies) which may pay a large portion of medical bills, but only for specific diseases. According to another study, at year-end 1979, approximately 164 million persons, or about 70% of the civilian noninstitutional population, had physicians' expense coverage -- formerly termed Regular Medical Expense Insurance.[2] This form of health insurance provides benefits which help pay physicians' fees for nonsurgical care in a hospital as well as in a home or physician's office. There are usually maximum benefits for specific services, and the levels of maximum benefits vary across insurance plans. While, to the best of our knowledge, no estimate has been made for the amount consumers pay in coinsurance and deductibles, some estimate on the private health insurance cost to consumers is available. In 1979 the cost of private health insurance to consumers was 445.7 billion above the amount they received back from private insurers for claims or benefits in 1979. The net cost in 1978 was $4.6 billion.[3] These amounts were retained by private insurers to cover operating expenses, profits and additions to reserves. For consumers, of course, these amounts represent the net expenses of obtaining insurance, that

is, the amount consumers pay for risk assumption and administrative services by the private insurer. As Table 3 shows, the 1979 net costs to consumers were more than double the 1976 level, and almost four times the 1970 level. The time-series data also indicate that the net cost fluctuates over time, usually reflecting the general business climate in the private health insurance industry, and in turn affecting the yearly profitability of the insurers.

The second source of consumers' direct payments to physicians is composed of those consumers who do not have any health insurance coverage. A recent study gave some indications of who those persons are.[4] Persons without health insurance coverages can be divided into two groups: the elderly or those over age 65 and those under age 65. Virtually all of the elderly had coverage for hospital and surgical services under the Medicare program (23.8 million for hospital insurance, and 23.6 million for medical care in 1978). For prescripton drugs or private duty nursing, more than 20 million of the aged had no insurance protection, either through private insurance or through the Medicare program. According to the 1978 Household Interview Survey conducted by the National center for Health Statistics (NCHS), in 1978, only 530,000 of the aged were not covered by either private health insurance or Medicare, and only 253,000 were not covered by any of the four plans: private insurance, Medicare, Medicaid or Veterans Administration.

Among the under age 65 group without health insurance protection, many were self-employed and chose not to buy insurance; others worked for small, low wage paying employers and could not afford to buy insurance on their own. Some were in poor health and therefore could not obtain insurance, or were disabled and not eligible for Medicare because of the 24 month waiting period, or were ineligible for Medicaid, and unable to purchase private insurance. Another group was made up of certain workers in "transient stage" affected by

TABLE 3

PRIVATE HEALTH INSURANCE COST TO CONSUMERS ABOVE THE BENEFITS RECEIVED FROM INSURERS, 1950-1979

Year	Total	Blue Cross and Blue Shield	Insurance Companies	Independent Plans
1950	$ 299.6	$ 83.4	$ 205.0	$ 11.2
1955	613.9	145.7	447.9	20.3
1960	844.7	194.9	638.0	11.7
1965	1,255.1	256.1	941.7	57.3
1970	1,456.3	310.7	1,105.1	40.5
1971	2,152.0	611.5	1,466.0	74.5
1972	3,271.8	932.4	2,236.7	102.7
1973	3,754.4	1,054.9	2,463.7	235.8
1974	3,311.1	727.5	2,348.7	234.9
1975	2,364.7	254.4	1,691.7	418.6
1976	2,700.9	1,041.6	1,259.3	400.0
1977	4,605.2	1,927.2	2,128.8	549.2
1978	4,648.2	2,082.2	1,809.7	756.3
1979	5,683.4	1,747.3	2,890.2	1,045.9

SOURCE: M.S. Carroll and R.A. Arnett III, (1981), p. 84.

eligibility provisions in labor-management plans -- the unemployed whose exit lags had expired, and the newly employed whose entry lags had not been cleared. The NCHS Survey found that about 23.3 million persons under age 65 had no public or private health insurance coverage.

A variety of other estimates on the number of persons in the U.S. without third-party insurance protection against health care expenses have been developed by private and government agencies. Table 4 summarizes these studies. The estimated percentages of the population who do not have health insurance ranges from 5% to 13%. The differences in the estimations my be attributable to differences in definitions, methodologies and the time periods covered. It should be noted that all these estimates are of persons who do not have any health insurance. However, even for people covered by insurance, the insurance often does not provide adequate coverage for expenditures for physicians' services; the coverage is often only for care related to hospital stay. For example, in 1977, 39% of the total physician expenditures was made up of consumers' out-of-pocket costs. In 1980, the figures for out-of-pocket consumers' cost for physician and hospital care were 37% and 9% respectively. Table 5 indicates that the reason consumers pay a much larger percentage of out-of-pocket costs for physicians' services than for hospital care is that the public programs pay much smaller shares (about half) of personal expenditures for physicians' services than they do for hospital care. Thus, even though the portion of the population insured for regular medical expenses (physicians' services) is growing, and insurance may now cover roughly the same percentage of consumers' physicians' bills as of their hospital bills, consumers still have to shoulder a much more substantial portion of out-of-pocket costs for physicians' services than hospital care.

SUMMARY OF STUDIES ON THE NUMBER OF PERSONS IN THE UNITED STATES WITHOUT PRIVATE OR PUBLIC HEALTH INSURANCE

IME PERIODS	AGENCY CONDUCTING THE STUDY	FINDINGS
1976	Social Security Administration[1]	24 to 25 million persons, or 12% to 13% of the U.S. population under 65, had no public or private protection against the cost of hospital or surgical care.
1976	U.S. Bureau of the Census[2]	22 million persons or 10% of the total U.S. population were without either private or public health insurance.
1976	Robert Wood Johnson Foundation[3]	Estimates concur with those of the Social Security Administration.
.974-1975	Pracon, Inc. (conducted for Roche Laboratories)[4]	12.2 million persons, or 6% of the total U.S. population had no private or public health insurance coverage.
1978	The Congressional Budget Office[5]	11 to 18 million persons or some 5% to 8% of the U.S. population were without health care coverage.
'irst months f 1979	National Center for Health Services Research[6]	26.6 million persons or 12.6% of the civilian non-institutionalized population had no health insurance coverage.

OURCES:

USDHEW, Social Security Administration Social Security Bulletin, Sept. 1978, Vol. 41, No. 9, "Private Health Insurance Plans in 1976: An Evaluation"

U.S. Department of Commerce (1980), Table 163, p. 109.

The Robert Wood Johnson Foundation, Special Report Number One: A New Survey on Access to Medical Care, 1978.

Hoffman-LaRoche, Inc., National Health Insurance Issues, "The Unprotected Population," 1977.

U.S. Congressional Budget Office, Profile of Health Care Coverage: The Haves and Have-Nots, 1979.

U.S. DHHS, National Center for Health Services Research, National Health Care Expenditures Study, "Who Are the Uninsured? Data Preview" 1979.

ee Source Book of Health Insurance Data, 1979-1980, Health Insurance Institute, Washington, D.C., p. 11.

TABLE 5

Percentage of Physicians' Services Expenditures and Hospital Care Expenditures by Source of Funds, 1977, 1979

	Physicians' Services Expenditures		Hospital Care Expenditures	
	1977	1980	1977	1980
Total Dollar Amount (Billions)	$32.2	$46.6	$65.6	$99.6
Direct Payments by Consumers	39%	37%	6%	9%
Private Insurance	37%	37%	37%	35%
Public Programs	24%	26%	55%	56%
Medicare	14%	17%	24%	26%
Medicaid	6%	5%	9%	10%
Other	4%	4%	22%	20%

Source: 1977 data: Gibson, R. M., Fisher, C. R., "National Health Expenditure, Fiscal Year 1977" Social Security Bulletin, July 1978, pp. 3-20, Table 3. 1980 data: Gibson, R. M., and Waldo, D. R., "National Health Expenditures, 1980" Health Care Financing Review, September 1981, pp. 1-54 Table 6A.

Insurance Premium Payments from Consumers to Third-Party

A fiscal flow in the form of health insurance premiums from consumers to third-party insurance carriers characterizes facet B of the financial arrangements accompanying the delivery of physicians' services. Since most people obtain health insurance through their employers and employers usually pay insurance premiums for their employees as a form of fringe benefit, the fiscal flow from "individual consumers" to third-parties includes a large amount of "employers' payments." Table 6 gave some indication of the private consumer's out-of-pocket expenditures for health insurance premiums during the period 1950-79. It is noted that the percent increases in the three columns: per capital private health insurance premium expense for the entire civilian population, average premium expended per person covered by private health insurance (using hospital enrollment) and the national disposable income in current dollars spent for health insurance are 2900%, 1800% and 500%, respectively. The increased premium rates are, of course, a direct response to benefit increases which result mainly from rising prices for health care and increases in the volume of services. Volume of services, in turn, is affected by expansion of insurance coverage to a more comprehensive range of services, increased utilization rates, and population growth.

Payments from Third-Party to Physicians

Facet C entails third-party payers -- both the public health insurance programs and private insurance carriers -- compensating physicians for services rendered. In 1980, approximately 63% of the total payments for physicians' services were insurance payments, with 37% from private and 26% from public insurance programs. (Figures 1 and 2, Table 5).

Health insurance, especially in the form of group health insurance plans, grew rapidly after WWII; partly due to the fact that many employers, restricted by wartime wage controls, began to provide medical care insurance

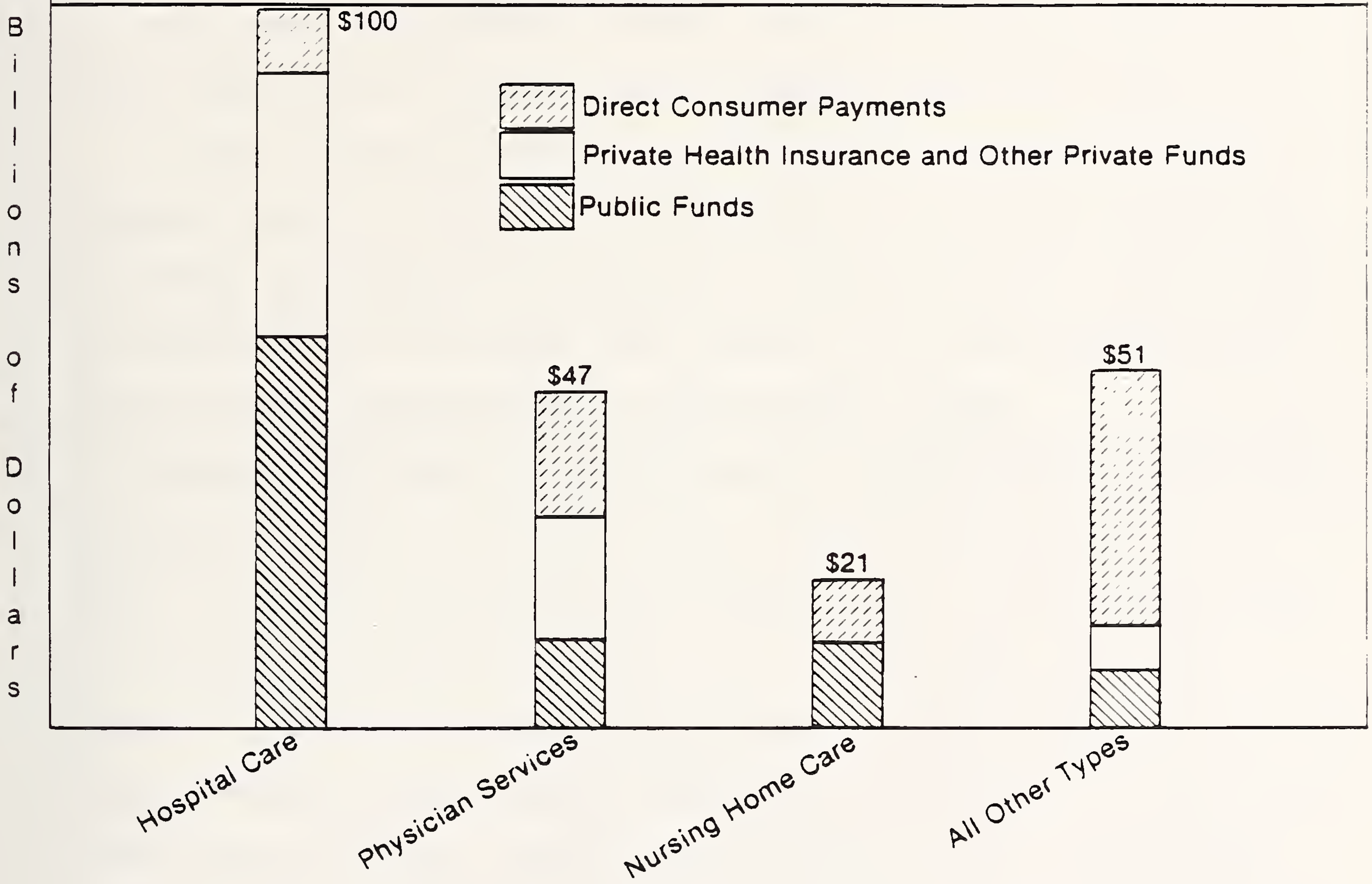
TABLE 6

Per Capita Premium Expenditures for Private Health Insurance, Average Premium Expenditures per Person Covered, and Percent of National Disposable Personal Income Spent for Health Insurance, 1950-1979

Year	Per Capita Premium Expenditure	Average Premium Expenditure per Person Covered	Percent of National Disposable Personal Income Spent for Health Insurance
1950	$ 8.57	$ 16.85	.6
1955	19.33	29.25	1.1
1960	32.79	44.28	1.7
1965	51.80	72.29	2.1
1970	84.09	110.69	2.5
1975	152.73	198.01	3.0
1976	178.49	232.42	3.2
1977	206.93	264.98	3.4
1978	228.56	293.91	3.4
1979	254.34	327.06	3.4

SOURCE: M.S. Carroll and R.H. Arnett III, p. 84

FIGURE 2
Selected Types of Personal Health Care
Spending, By Source of Funds: 1980



Source: Gibson, R. M. and Waldo, D. R. (1981) pp. 1-54, Figure 6.

as an added fringe benefit to their employees. The phenomenal growth of health insurance since WWII is demonstrated by the rising proportion of physician service expenditures paid by public and private insurance: insurance payments accounted for more than 61% of the $32.2 billion spent on physicians' services in 1977, and more than 63% of the $46.6 billion total in 1980. The remainder was paid directly by consumers, 39% of the total in 1977 and 37% in 1980. Public health insurance payments for physician services consist largely of the federally-financed Medicare program (see Table 7).

In 1978, the market for private health insurance included over 1,000 commercial carriers; 69 Blue Cross plans, 70 Blue Shield plans and 203 health maintenance organizations.[5] Included in this market are also a growing number of corporations that self-insure their employees' health care expenses while using third-party administrators to process benefit claims.

The market for health insurance in the U.S. is characterized by dazzling institutional diversity and complex design of benefit packages and pricing policy.[6] The health insurance market consists of both a robust private sector land formidable government enterprise. On the private side, over 1,200 insurance companies were writing health insurance covering more than 104 million persons in 1978. There are three identificable groups of providers of private health insurance: the Blue Cross/Blue Shield Plans, the commercial companies, and the independent carriers. The policies are sold either on an individual basis or as group policies, usually through employers or professional associations. The policies issued by the private insurers make payment either directly to the insurers or, if assigned by the insured, to the provider of the services. They may cover all or only a part of the bill incurred by the patient. The proportion of the nation's population covered by private health insurance has varied little in the past several years (Table 8). In 1979 the percent of privately insured population ranges from 61% for

TABLE 7

Percent of Expenditures for All Personal Health Care and Physicians' Services Under Public Programs, by Program, 1977, 1979

	All Personal Health Care		Physicians' Services	
	1977	1980	1977	1980
All Public Program Expenditures	100.0	100.0	100.0	100.0
Medicare	36.4	41.2	56.6	62.6
Medicaid	28.5	29.2	23.4	18.7
Veterans' Administration	7.5	6.7	0.7	0.8
Department of Defense	5.9	4.9	1.2	0.8
Workers' Compensation	4.6	4.5	14.2	13.0
State and Local Hospitals (Net of Reimbursement)		6.9		
General Hospital and Medical Care	14.5		0.3	
All Others	2.6	6.6	3.6	4.1

Source: 1977 data: Gibson, R. M. and Fisher, C. R., "National Health Expenditures Fiscal Year 1977" Social Security Bulletin, July 1978, Vol. 41, No. 7, pp. 3-20. Computation of 1977 data is based on Table 4, 1980 data: Gibson, R. M. and Waldo, D. R., "National Health Expenditures, 1980" Health Care Financing Review, September 1981, pp. 1-54, Table 7A.

TABLE 8

Estimates of Net Number of Persons Under Private Health Insurance Plans and Percent of Population Covered, by Age and Specified Type of Care, for Calendar Years 1976 through 1979

	All Ages		Under Age 65		Age 65 and Over	
	Number (in Thousands)	Percent of Civilian Population[1]	Number (in Thousands)	Percent of Civilian Population[2]	Number (in Thousands)	Percent of Civilian Population[3]
			1979			
Hospital Care	170,791	77.8	154,790	79.5	16,001	64.1
Physicians' Services						
Surgical Services	165,090	75.2	154,407	79.3	10,683	42.8
In-hospital Visits	167,559	76.3	156,578	80.4	10,981	44.0
X-ray and Laboratory Examinations	166,374	75.8	155,774	80.0	10,600	42.4
Office and Home Visits	133,351	60.7	126,735	65.1	6,616	26.5
Dental Care	60,269	27.4	58,747	30.2	1,522	6.1
Prescribed Drugs (out-of-hospital)	131,237	59.8	126,865	65.2	4,372	17.5
Private Duty Nursing	126,934	57.8	123,405	63.4	3,529	14.1
Visiting Nurse Service	161,082	73.3	152,671	78.4	8,411	33.7
Nursing Home Care	97,632	44.4	85,698	44.0	11,934	47.8
			1978			
Hospital Care	169,078	77.8	152,901	79.2	16,175	66.4
Physicians' Services						
Surgical Services	181,881	74.4	151,550	78.5	10,331	42.4
In-hospital Visits	163,549	75.2	152,838	79.2	10,711	44.0
X-ray and Laboratory Examinations	151,120	69.5	142,000	73.6	9,120	37.4
Office and Home Visits	135,776	62.4	128,854	66.7	6,922	28.4
Dental Care	53,825	24.8	52,222	27.0	1,603	6.6
Prescribed Drugs (out-of-hospital)	132,300	60.8	127,722	66.2	4,578	18.8
Private Duty Nursing	133,748	61.5	130,283	67.5	3,463	14.2
Visiting Nurse Service	139,982	64.4	133,464	69.1	6,518	26.8
Nursing Home Care	84,489	38.9	75,931	39.3	8,558	35.1
			1977			
Hospital Care	168,383	78.1	151,910	79.2	16,473	67.3
Physicians' Services						
Surgical Services	161,658	75.0	149,833	78.1	11,825	49.7
In-hospital Visits	160,195	74.3	150,169	78.3	10,026	42.1
X-ray and Laboratory Examinations	146,243	67.8	137,394	71.6	8,849	37.2
Office and Home Visits	124,270	57.6	117,484	61.2	6,786	28.5
Dental Care	44,414	20.6	43,282	22.6	1,132	4.8
Prescribed Drugs (out-of-hospital)	131,364	60.9	127,040	66.2	4,324	18.2
Private Duty Nursing	129,947	60.3	126,209	65.8	3,738	15.7
Visiting Nurse Service	130,300	60.4	125,981	65.7	4,319	18.2
Nursing Home Care	61,127	28.3	55,813	29.7	5,314	23.3
			1978			
Hospital Care	164,235	78.8	149,643	78.5	14,592	62.8
Physicians' Services						
Surgical Services	160,171	74.9	149,282	78.3	10,909	47.0
In-hospital Visits	159,575	74.6	149,963	78.7	9,612	41.4
X-ray and Laboratory Examinations	147,063	68.8	138,782	72.8	8,281	35.6
Office and Home Visits	127,214	59.5	121,311	63.6	5,903	25.4
Dental Care	39,462	18.4	38,862	20.4	600	2.6
Prescribed Drugs (out-of-hospital)	132,260	61.8	127,645	67.0	4,615	19.9
Private Duty Nursing	128,939	60.3	124,547	65.3	4,392	18.9
Visiting Nurse Service	126,963	59.4	122,364	64.2	4,599	19.8
Nursing Home Care	64,024	29.9	58,762	30.8	5,262	22.6

[1] For the all ages group, the civilian population in 1979 is based on the Bureau of Census estimate of 219,625,000 as of January 1, 1980; in 1978 it is based on the Bureau of Census estimate of 217,417,000 as of January 1, 1979; in 1977 it is based on the Bureau of Census estimate of 215,618,000 as of January 1, 1978; and in 1976 it is based on the Bureau of Census estimate of 213,863,000 as of January 1, 1977.

[2] For the under age 65 group, the civilian population in 1979 is based on the Bureau of Census estimate of 194,648,000 as of January 1, 1980; in 1978 it is based on the Bureau of Census estimate of 193,057,000 as of January 1, 1979; in 1977 it is based on the Bureau of Census estimate of 191,823,000 as of January 1, 1979; and in 1976 it is based on the Bureau of Census estimate of 190,628,000 as of January 1, 1977.

[3] For the age 65 and over group, the civilian population in 1979 is based on the Bureau of Census estimate of 24,977,000 as of January 1, 1980; in 1978 it is based on the Bureau of Census estimate of 24,360,000 as of January 1, 1979; in 1977 it is based on the Bureau of Census estimate of 23,795,000 as of January 1, 1978; and in 1976 it is based on the Bureau of Census estimate of 23,235,000 as of January 1, 1977.

office and home visits to 75% for surgical and laboratory services, and in-hospital visits. The time-series data of market shares and the growth in the number of enrollments reported by all private insurers for hospital care, surgical services, drugs and dental care are shown in Table 9.

The "Blues" is basically a loose federation of approximately 100 plans linked by the National Blue Cross and Blue Shield Association which provides shared services and coordination between the plans. The Blues plans are non-profit entities, and their rates are regulated by state governments. In the U.S., there are some states with virtaully no Blue Cross or Blue Shield insurance and those in which the Blues hold more than 80 percent of the market. Blue Cross hospital insurers and Blue Shield physician insurers have many special tax and regulatory advantages; and they insure a large portion of Americans. They compete with commercial carriers and in a few states (e.g., California and Wisconsin) the Blue plans may even compete with each other for business. Each plan exercises an exclusive franchise within its geographical area.

In all but a few instances, Blue Shield plans insure only physician expenses. In 1979, among the American population with private health insurance, the percentages of population protected by Blue Shield against physicians' expenses vary from 39% for X-ray and laboratory services to 20% for physicians's office visits (Table 10). Blue Shield plans originated as a service-benefit plan in which the subscriber is entitled to services rendered by Blue Shield participating physicians without cost to him. The majority of the Blue Shield plans have such "PAR" programs. The nonparticipating physician can, of course, charge the subscribers the difference between his bill and the Plan's payment.

TABLE 9

Gross Enrollment Under Private Health Insurance Plans, by Type of Plan, 1950-1979
(in Thousands)

	All Plans	Blue Cross and Blue Shield			Insurance Companies			Independent Plans
End of Year		Total	Blue Cross	Blue Shield	Total	Group Policies	Individual Policies	
					Hospital Care			
1950	81,691	37,645	37,435	210	39,601	22,305	17,296	4,445
1960	140,055	57,464	55,938	1,526	76,597	54,416	22,181	5,994
1970	190,758	75,464	72,942	2,522	107,163	80,505	26,658	8,131
1975	210,976	85,762	83,179	2,583	112,069	81,954	30,115	13,145
1976	203,336	85,528	83,054	2,474	102,940	75,944	26,996	14,868
1977	208,333	85,101	83,153	1,948	105,126	76,439	28,687	18,106
1978	218,509	85,348	82,950	2,398	111,672	75,621	36,051	21,489
1979	220,753	85,409	83,150	2,259	109,842	75,458	34,384	25,502
					Surgical Services			
1950	55,950	17,253	1,151	16,102	34,937	21,219	13,718	3,760
1960	127,091	48,266	3,773	44,493	71,489	55,464	16,025	7,336
1970	179,152	69,110	3,874	65,236	99,510	81,549	17,961	10,532
1975	194,714	77,803	4,699	73,104	101,149	82,681	18,468	15,762
1976	188,204	76,952	4,629	72,323	93,278	77,206	16,072	17,974
1977	189,939	75,379	4,848	70,531	93,034	78,625	14,409	21,526
1978	193,994	74,398	4,611	69,787	94,566	77,824	16,742	25,030
1979	197,838	73,458	3,832	69,626	95,274	77,572	17,702	29,106
					Prescribed Drugs (out-of-hospital)			
1950	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
1960	69,632	10,800	[1]	[1]	56,100	51,700	4,400	2,732
1970	105,885	25,627	[1]	[1]	75,437	70,396	5,041	4,821
1975	155,236	46,122	[1]	[1]	98,230	90,915	7,315	10,884
1976	153,865	46,253	[1]	[1]	94,818	88,146	6,672	12,794
1977	152,837	41,208	[1]	[1]	95,568	89,467	6,101	16,061
1978	153,914	38,451	[1]	[1]	95,738	88,848	6,890	19,725
1979	152,687	31,852	[1]	[1]	96,609	89,296	7,313	24,226
					Dental Care			
1950	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
1960	4,227	16	[1]	[1]	2,000	2,000	[1]	2,211
1970	12,041	273	[1]	[1]	7,454	7,383	71	4,314
1975	29,494	3,320	[1]	[1]	17,884	17,800	84	8,290
1976	39,462	4,363	[1]	[1]	23,994	23,894	100	11,105
1977	44,414	5,283	[1]	[1]	24,897	24,897	—	14,234
1978	53,825	5,922	[1]	[1]	30,076	30,076	—	17,827
1979	60,269	8,251	[1]	[1]	29,691	29,691	—	22,327

[1] Data are not available.

TABLE 10

Gross Enrollment under Private Health Insurance Plans, by Age, Type of Plan and Specified Type of Care as of December 31, 1976 through December 31, 1979

(in thousands)

Type of Plan	Hospital Care	Physicians' Services				Dental Care	Pre-scribed Drugs (out-of Hospital)	Private Duty Nursing	Visiting Nurse Service	Nursing Home Care	Vision Care
		Surgical Services	In-Hospital Visits	X-ray and Labora-tory Exami-nations	Office and Home Visits						
				1979 **All Ages**							
Total[1]	220,753	197,838	198,121	201,429	154,567	60,269	152,687	147,519	183,801	108,056	
Blue Cross and Blue Shield	85,409	73,458	70,579	77,836	31,403	8,251	31,852	26,815	64,493	58,939	2,525
Blue Cross	83,150	3,832	3,863	·	3,310	·	·	·	·	·	·
Blue Shield	2,259	69,626	66,716	·	28,093	·	·	·	·	·	·
Insurance Companies[2]	109,842	95,274	97,735	96,609	96,609	29,691	96,609	96,658	96,609	27,590	
Group Policies[2]	75,458	77,572	88,904	89,296	89,296	29,691	89,296	89,288	89,296	21,377	
Individual Policies	34,384	17,702	8,831	7,313	7,313	—	7,313	7,370	7,313	6,213	
Independent Plans[4]	25,502	29,106	27,807	26,984	26,555	22,327	24,226	24,046	22,699	21,527	18,410
				Under Age 65							
Total	201,213	185,161	184,015	189,732	147,249	58,747	147,838	143,603	177,472	94,859	
Blue Cross and Blue Shield	78,152	65,025	62,605	69,115	27,001	7,898	29,832	25,437	57,467	48,855	2,537
Blue Cross	74,144	3,384	3,342	·	3,158	·	·	·	·	·	·
Blue Shield	2,008	61,661	59,263	·	23,843	·	·	·	·	·	·
Insurance Companies[2]	101,740	93,159	95,620	95,620	95,620	29,216	95,620	95,620	95,620	26,020	·
Group Policies[2]	73,565	77,203	88,535	88,535	88,535	29,216	88,535	88,535	88,535	20,692	·
Individual Policies	28,175	15,958	7,085	7,085	7,085	—	7,085	7,085	7,085	5,328	·
Independent Plans[4]	23,321	26,977	25,790	24,997	24,628	21,633	22,386	22,546	21,385	19,984	17,165
				Age 65 and over							
Total	19,540[3]	12,677[3]	12,106[3]	11,697[3]	7,318[3]	1,522	4,849	3,916	9,329[3]	13,197[3]	·
Blue Cross and Blue Shield	9,257[3]	8,433[3]	7,974[3]	8,721[3]	4,402[3]	353	2,020	1,378	7,026[3]	10,084[3]	38
Blue Cross	9,006[3]	468[3]	521[3]	·	152[3]	·	·	·	·	·	·
Blue Shield	251[3]	7,965[3]	7,453[3]	·	4,250[3]	·	·	·	·	·	·
Insurance Companies[2]	8,102	2,115	2,115	989	989	475	989	1,038	989	1,570	·
Group Policies[2]	1,893	389	389	761	761	475	761	753	761	685	·
Individual Policies	6,209	1,746	1,746	228	228	—	228	285	228	385	·
Independent Plans[4]	2,181	2,129	2,017	1,987	1,927	694	1,840	1,500	1,314	1,543	1,245

Source: M. S. Carroll and R. H. Arnett III (1981), Table 2.

Historically, the Blue Shield plans as a group have displayed an unmistakable preference for service benefit and fee schedules payment method with service benefit applicable to low income patients. Later, some plans dropped the income requirement and made service benefit available for all under the PAR program. However, in the early 1950's, Herman Stone of the California Blue Shield and California Medical Association first proposed the concept of UCR as a mechanism to determine physician payment.[7] The concept was based on the philosophy that doctors should be paid the fees they usually charged. In 1966, UCR first became operational to the Blue Shield in the state of California, wherein contracts were entered with physicians who chose to participate in the program and who were willing to accept the Plan's UCR-determined payment as payment in full. Presently, approximately 90% of the Blue Shield plans rely on UCR methods to pay physicians. The most commonly used range of percentiles of physicians fees as the plan's maximum allowable payment is the 80th to 90th percentile. Since the commercial carriers also rely almost exclusively on the UCR method, and many of the major carriers also use similar percentiles to determine maximum payments, now coverages for most large groups are often indistinguishable between Blue Shield and commercial policies. The one exception is, of course, that under Blue Shield PAR programs, the physician cannot balance-bill the patient.

Although Blue Shield originated fee schedule payments to physicians and the service benefit to low income patients, presently fee schedule programs are rarely used by Blue Shield outside of the Northeast. Some of those that still use the fee schedule have retained the classic feature of tying service benefit to income level; some have dropped the income qualification and made service benefit available for all subscribers; others are really using some

capped variety of UCR (putting a ceiling on UCR-determined fees) and calling it a fee schedule. Several Blue Shield maximum payment schedules of both the UCR and fee schedule sorts will be presented in Section 3.3.4.3.

The commercial insurance carriers number more than 1,000 and include such well-known companies as Prudential, Travellers, Equitable, Aetna and Connecticut General. They are organized to make a profit, and they actively compete with the Blues for their market share. For example, in 1948, the commercial carriers began to write a new type of medical care expense insurance known as Major Medical. Major Medical plans provide a broad protection against a wide range of health care expenses as well as substantial protection for large, unpredictable medical expenses. The commercial carriers also pioneered in offering cash indemnities or so-called indemnity benefits, wherein the insurer pays the patient or the physician a specified amount for a procedure, then the patient is responsible for meeting the physician's entire bill. In contrast to the Blue Shields, the commercial carriers do not have contractual agreement with physicians. Virtually all commercial carriers rely on UCR methods to pay physicians. Most major commercial carriers use the 90th percentile of the physicians' fees as the plan's maximum allowable payments, although some carriers use substantially lower percentiles.

Approximately 90% of persons who have health insurance protection with the commercial carriers are covered by group policies in 1979.[8] The Blue Shields on the other hand, have much more individual (non-group) health insurance policies than the commercial carriers. Indeed, the service-benefit feature obligates the Blues to pay all necessary bills for the premium set at the time the individual policy was issued, and the Blues' request for premium increases are often turned down by the state insurance commissioners who are sensitive to the political fallout of big rate increases. In one instance, so

frustrated with the financial difficulties in the management of the individual policies and the insurance commissioner's refusal to approve the premium increase that on February 1, 1982, Blue Shield of Michigan raised its individual policy premium from 63% to 90% without approval of the Commission.[9] But on March 25, 1982, the Michigan Supreme Court canceled the $45 million increase and reaffirmed that state law prohibits the Blues from upping Blue Shield's individual policy rates without state approval. According to Michigan Blues President John C. McCabe, the reason for the premium increase is that the population eligible for individual policies is getting older and they use a disproportionate amount of health care and they are driving up the costs. For reasons like this, commercial insurers are avoiding the business with small group and individual buyers. Indeed, the Prudential Insurance Company of America, which raised health insurance premiums for individual policies up to 60% in 1981 because of "persistent and large losses", has recently stopped writing new policies for individuals altogether. Blue Shileds, on the other hand, have traditionally made their policies available to individuals. In general, the individual policies sold by the commercial carriers usually give only token protection against today's hospital costs. Individual hospital policies outsold individual surgical policies almost 2 to 1 in 1979; for the elderly, the ratio was almost 4 to 1. Individual policyholders faced relatively large out-of-pocket expenses as a result of low reimbursement levels, and a narrow range of benefits, exclusions and limitations (such as waiting periods annd pre-existing conditions). Several reasons are cited for the low benefit to the individuals: the high cost of selling and administering these policies as opposed to the economies of scale in the case of large group policies, and the need to keep the premium

as low as possible so that the individual can afford the policy without employer contributions.

In contrast to individual policies, the commercial group insurance policies, especially those sold by major carriers, are quite comprehensive. In its annual survey of group insurance policies, the Health Insurance Institute (HII) found that 98% of the persons with the comprehensive major medical expense protection had maximum benefits of $100,000 or more in 1980, compared with 24% in 1973.[10] The highlights of the HII survey findings include the following:

- of the 333,212 employees in the 1980 survey, 71% either had health insurance coverage paid entirely (58%) or in part (13%) by their employers.
- of the 159,950 employees with comprehensive major medical expense plans (one plan covers both basic and prolonged expenses):
  1. 36% had a single deductible of $100. An additional 24% were covered under plans with separate deductibles types where no deductible is applied to either hospital or hospital and surgical expenses, but a $100 deductible is applied to all other medical expenses.
  2. 98% had maximum benefits of $100,000 or more. 84% had maximum benefits up to $1 million or no limit.
  3. 65% had out-of-pocket limits of $1,000 or less.
- of 84,622 employess with supplementary major medical expense plans (wrap around basic expense coverage plans):
  1. 75% had a single deductible of $100 before insurance benefits started; 10% had a $50 deductible.

2. 90% had maximum benefits of $100,000 or more or unlimited benefits.
3. 46% had out-of-pocket limits fo $1,000 or less.

- of 101,395 employees in the survey with basic hospital expense plans, 72% were insured fully for miscellaneous hospital expenses of $500 or more, 53% had unlimited coverage.
- of 99,461 employees with basic surgical expense plans, 66% had maximum benefits of $1,000 or more or no limit.

The third type of private insurers, the independent carriers, are non-profit organizations like the Blues. However, they are not national in scope. Generally the independent carriers confine their membership to a particular group or to individuals from a limited geographic area. Many of the independent carriers have stressed their connection with group practices and their provision of comprehensive benefit packages. A growing share of the market was held by independent prepaid and self-insured health plans. Those plans are not underwritten by Blue Cross or Blue Shield or by an insurance company. They are sponsored by consumer groups, labor and/or management and health professionals. in some cases these plans are controlled by providers (e.g., the Ross-Loos Medical Group of Los Angeles). Some cover HMO-type providers, such as the Kaiser-Permanente, which integrates the ambulatory and inpatient sectors and provides its members with comprehensive health services against prepayment of an annual capitation payment.[11] Many of the independent plans, both HMO's and others, operate on a group practice basis for one or more benefits.[12]

It should be noted that some HMO's do not operate under independent insurance plans, but use either Blue Cross/Blue Shield or insurance companies to cover all or a portion of the benefits provided to the HMO's members. In

such a case the HMO provides comprehensive health services for its members, but contracts with an insurer to provide insurance coverage for some or all of these services. Sometimes it is the insurance company itself which organizes or administers the HMO. That is because since 1969, the health insurance industry has viewed HMO's as an effective means of meeting the primary care needs of the population as well as introducing improved management and accountability into the health care systems. During mid-1974, at least 55 private insurance companies had some degree of involvement in 71 HMO's in various stages of development.[13]

Medical Foundations form another set of independent carriers. They are not-for-profit organizations, and have been created by doctors to preserve fee-for-service practice in private offices and to meet the demand for cost controls.[14] Some Foundations are even seeking to qualify at HMO's. A Foundation is an organization of physicians, sponsored by a state or local medical society, that contracts with industry, unions, or government to provide health care to specified groups of patients, or contracts with a third-party insurer to review health care claims. A Foundation provides care in the private offices of member physicians, rather than in a clinic or central facility, thus allowing patients free choice of physicians. All Foundations provide a system of peer review, particularly with regard to utilization of physicians' services and also with regard to fees charged. The peer groups usually set ceilings on fee-for-service in order to eliminate fee abuse. Foundation doctors are paid on a fee-for-service basis either directly by the Foundation or through a third-party insurer. Many Foundations sponsor some prepaid health insurance plan. In some cases, Foundations work through third-party insurers who meet the Foundations' prescribed standards for coverage. Other Foundations sell health care contracts directly, writing off

the risk portion with an insurance company. A few Foundations provide comprehensive care on a prepaid basis, charging patients a flat annual fee, paying their member physicians on a fee-for-service basis.

The number of existing Foundations has increased from 37 in 1971 to more than 103 in 1975. The rapid increase in the number of Foundations gave birth to the American Association of Foundations for Medical Care. The AAFMC estimates that there are 120,000 Foundation physicians involved in the care of over 7 million patients. Although the Foundations are spread over 47 states, seventeen percent are located in California, where Foundations originated in response to the threat of prepaid plans such as Kaiser-Permanente. While the majority of Foundations cover one or several counties, state-wide operations also exist.

In general, independent prepaid and self-insured health plans offered a comprehensive range of health services. They are considered to provide major medical protection because of their comprehensive range of benefits and the prepaid delivery of health care services as needed. With the rapid growth of self-insured labor-management plans and the increasing number of HMO's, the number of persons with major medical protection in independent plans reached approximately 17 million in 1978 and 21 million in 1979.

In conclusion, it is very difficult to compare the extensiveness of health insurance protection of the three groups of private third parties: Blues, commercial carriers and independent plants, as the coverage and enrollment statistics do not necessarily provide the whole picture. For example, coverage can mean a narrow or comprehensive range of benefits, a large deductible and low coinsurance by the insurer or 100 percent reimbursement by insurer for health care costs. Table 11 summarizes the average benefit expenditure per enrollee across three types of private

insurers; this information can provide some insight on the relative depth of extensiveness of coverages. Since utilization rate per enrollee was probably similar among all of them, the higher Blues and independent plans' average expenditures for hospital care indicate that generally these plans provided more days of coverage and more comprehensive coverage of hospital costs than the group coverage of insurance companies. the meager coverage of commercial carriers' individual plans is also readily apparent. Although the average hospital expenditure by independent plans is lower than that for the Blues, this may not in itself indicate less extensive coverage. Rather, the relatively low utilization rates by community/consumer sponsored group practice plans tend to hold down the average hospital expenditures of all independent plans. Benefit expenditure per enrollee for physicians' services reflect the fact that independent plans generally provided the most comprehensive coverage for physicians' services and emphasized those services over hospital care. The relatively high average benefit expenditure of independent plans for prescribed drugs would indicate that the majority of these plans provided first dollar coverage instead of the cost-sharing arrangements commonly featured in the Blues' and commercial carriers' policies.

The situation regarding the public insurance programs is even more complex than the private insurance market. Somers and Somers suggest five classifications of public programs:

1. Programs which provide medical services directly through such institutions as the Veterans Administration or the Department of Defense;
2. Programs which purchase services directly from a provider, such as many of the Medicaid programs or the crippled children's programs;
3. Programs which purchase or pay for specified services through fiscal agents, such as Medicare programs or CHAMPUS;

TABLE 11

Average Benefit Expenditure per Enrollee by Type of Health Services and by Type of Private Insurers, 1979

Health Services	All plans combined	Blue Cross and Blue Shield	Commercial Carriers			Independent plans
			Group policies	Individual policies	All policies	
Hospital Care	$136.49	$170.81	$134.20	$54.85	$109.36	$138.40
Physicians Services	73.56	78.36	66.41	42.04	61.88	99.69
Dental Care	48.12	41.05	50.04	---	50.04	48.19
Prescribed Drugs	10.19	15.91	5.39	.75	5.04	23.21

Source: M. S. Carroll and R. H. Arnett III, pp. 67-68.

4. Programs which compel the purchase of health insurance by employers on behalf of their employees from private or state carriers, such as Workman's Compensation Programs;
5. Programs which purchase insurance from private plans or carriers, such as Part B of Medicare.

With the exception of the first category -- direct provision of health services -- all of these arrangements might fall under the title of "government health insurance programs." The two major initiatives remain in the federal program of Medicare, and the federal-state program of Medicaid.

Sixty-three and 19 percent, respectively, of the public expenditures for physician services in 1980 went to Medicare and Medicaid, two programs designed to finance health care for the aged and the medically indigent, while 18 percent went for other public programs (Table 6). For the most part, the health care paid for by Medicare and Medicaid has continued to be delivered by the traditional providers. Indeed, Medicare has not changed for fee-for-service method of paying for health care, has not restricted beneficiaries' freedom to choose their physicians, and, apart from utilization review, has not attempted to interfere with the "free enterprise" method of delivering medical care. As Somers pointed out, the Social Security Administration, in administering Medicare, has gone to great lengths in order "to avoid disturbing pre-existing institutional relationships, to involve the maximum feasible number of non-government units in administration, and to permit virtually complete free choice to all beneficiaries."[15]

Medicaid, on the other hand, is not a purely federal program. Each state has its own Medicaid program and determines its own eligibility requirements and benefits. Medicaid consists of 54 different programs covering each state and territory in the U.S. Each state finances from 17% to 50% of its own

Medicaid program while the remaining financial support comes from the federal government.

These programs have reduced the financial barriers to health care for the elderly and the needy, and substantially increased the income of health care providers. With Medicare and Medicaid, physicians have been able to earn large and growing incomes -- no matter how abundant the supply of physicians -- for four major reasons:

1. Physicians no longer need to provide free care to those charity patients whose medical bills are now paid by Medicare or Medicaid;
2. More patients can afford to use physicians' services;
3. Except when price controls were in effect, physicians have been able to raise their fees without fear of punishment since Medicare's payments are based on "customary fees" charged by physicians in a given locality;
4. Physicians can and do, as many researchers argued, induce demand for their own services. This point will be discussed again in Section 3.5.

In determining the amount of reimbursement for a given Medicare case, the government uses a formula which allows established physicians to charge up to the 75th percentile of the prevailing fee in their locality for a given service. This formula makes Medicare impotent agianst a general rise in physicians' fees. This and other points related to physicians' Medicare/Medicaid practice will be elaborated on further in the discussion of alternative reimbursement methods in the following sections.

3.2 The Economic Organization of Physician Practice

In a description of physician compensation in the U.S., it is necessary to distinguish between the compensation of a medical practice and the

compensation of the individual physician within the practice. This distinction will be superfluous if all American physicians practiced as self-employed solo practitioners. In fact, however, the majority of American physicians now practice in either small partnerships or group practices. Table 12, based on a nationwide random sample in 1978, suggests the prevailing distribution of physicians by type of practice. Table 13 presents further detail on this aspect of medical practice. This table is based on a census of American group practices in the U.S. as of 1975, the most recent year for which accurate data on the entire population of these practices are available.

When physicians are joined in a group medical practice, the fiscal nexus between patients (or third-party payers) on the one hand, and the medical practice on the other, tends to differ from the fiscal nexus between the group practice, on the one hand, and the individual member physician on the other. For example, a group medical practice may bill its patients on a fee-for-service basis and distribute its total net income to individual physicians on the basis of a flat salary, or on the basis of a more complicated formula that takes into account the individual physician's seniority and "productivity" (the latter typically being measured by the individual's contribution to the group's gross revenues). Table 14 presents data on the prototypical distribution schemes adopted by the groups represented in the 1975 census. According to these data, only 9 percent of the groups distributed their net income to members on the basis of "productivity only", that is, only in those practices did the fiscal nexus between patient and practice coincide with the fiscal nexus between practice and member physician. In all other practices the individual physician's income was determined on a basis other than purely a distinct fee for every service he or she had rendered.

TABLE 12

Distribution of Male Respondents from Main Sample and Female Respondents from Oversample by Type of Practice, 1978

Type of Practice	Distribution of Physicians Male Physicians (Main Sample) Number	 Percent	 Female Physicians (Oversample) Number	 Percent
Solo	2,043	49.5%	413	43.3%
Partnership or Group	1,755	42.5	291	30.5
Other	322	8.0	249	26.1
Total	4,130	100.0	953	100.0

SOURCE: American Medical Association (1980a), Table IV, p. 126.

TABLE 13

DISTRIBUTION OF GROUP PRACTICES BY LEGAL ORGANIZATION AND LOCATION, 1975

	All Locations		SMSA Counties		Non-SMSA Counties	
Type of Legal Organization	No. of Groups	%	No. of Groups	%	No. of Groups	%
Total	7,554	100	6,051	100	1,503	100
Sole Proprietor-Ships	120	1.6	98	1.6	22	1.5
Partnerships	2,049	27.1	1,517	25.1	532	35.4
Professional Corporations	4,612	61.1	3,823	63.2	789	52.5
Associations	483	6.4	383	6.3	100	6.7
Foundations	35	0.5	28	0.5	7	0.5
Other Forms of Organization	255	3.4	202	3.3	53	3.5

Source: Special Tabulations, Center for Health Policy Research, American Medical Association, November 1981.

TABLE 14

DISTRIBUTION OF GROUP PRACTICES BY
INCOME DISTRIBUTION POLICY, 1975

INCOME DISTRIBUTION POLICY	NUMBER OF GROUPS	%
TOTAL	8,461	100.0
Equal Distribution	2,229	30.2
Formula Distribution	2,462	33.3
Productivity Only Distribution	663	9.0
Straight Salary Distribution	1,484	20.1
Other Form of Distribution	553	7.5

SOURCE: American Medical Association (1977), Table C, p. 52.

TABLE 15

Distribution of Male Respondents from Main Sample and Female Respondents from Oversample by Method of Reimbursement, 1978

	Distribution of Physicians			
	Male Physicians (Main Sample)		Female Physicians (Oversample)	
Method of Reimbursement	Number	Percent	Number	Percent
Fee-for-Service	2,285	59.3%	434	49.7%
Salary	957	24.8	342	39.2
Share of Practice Income	511	13.2	63	7.2
Other	103	2.7	34	3.9
Total	3,856	100.0	873	100.0

SOURCE: American Medical Association (1980a), Table V, p. 127.

It deserves emphasis, of course, that the data in Table 14 reflect only the subpopulation of American physicians working in medical group practices. For the entire U.S. population, the sampling statistics in Table 15 are more nearly representative. According to these data, which reflect both solo practitioners and physicians in partnerships or groups, the income of roughly 60 percent of individual American physicians is directly based on fee-for-service compensation and only about 25 percent receive their income mainly in the form of a salary.

The distinction between the compensation of the medical practice and the compensation of individual physicians within the practice is crucial in analyses of the effect of compensation methods on physician behavior. This issue and the issue of the financial incentives faced by the individual physician will be addressed in Section 3.4. In the remainder of the present discussion, the focus will be strictly on the fiscal nexus between the patient (or the third-party payer paying on the patient's behalf) and the medical practice as a whole, be it a solo or multi-physician practice. Further, the compensation of "physicians" should be understood to mean the compensation of "medical practices". In this connection, it is always well to keep in mind that one set of services rendered by a physician (or medical practice) usually included both ambulatory and in-patient services rendered by him.

3.3 Alternative Methods of Physician Compensation

During any given time period, a physician (that is, a medical practice) may receive revenue from a variety of distinct sources. Table 16 illustrates this phenomenon. The data in that table come from a nationwide cross-section survey of physicians conducted by the American Medical Association. These data indicate only the percentage of patients whose care is covered by one or

TABLE 16

PHYSICIAN INCOME, PERCENT OF PATIENTS COVERED BY SELECTED TYPES OF HEALTH INSURANCE, AND PERCENT OF PATIENTS BY SELECTED REIMBURSEMENT CHARACTERISTICS BY SPECIALTY, 1979*

			Percentage of Patients Covered by				
Specialty	Net Income 1978	Gross Income 1978	Medicare	Medicaid	Prepayment-Capitation	Blue Cross/ Blue Shield	Other
General and Family Practice	$54,600	$ 97,800	27.7%	14.5%	5.6%	28.0%	24.7%
Internal Medicine	63,800	107,200	39.2	9.5	5.9	34.0	20.9
Surgery	82,600	141,100	30.9	11.2	4.3	35.3	23.4
Pediatrics	51,200	84,200	4.2	14.6	8.9	36.8	27.3
Obstetrics and Gynecology	70,300	128,700	8.5	11.6	6.4	40.8	32.7
Radiology	81,500	125,600	31.7	11.2	6.4	35.8	20.4
Psychiatry	50,200	73,900	8.7	11.0	4.3	33.5	26.3
Anesthesiology	74,200	101,200	27.0	14.6	4.1	33.5	28.6
Other	60,500	88,800	24.4	12.7	7.0	32.8	26.7
Total	65,500	108,700	26.3	12.0	5.6	33.7	25.3

SOURCE: Thirteenth Periodic Survey of Physicians. March 1979. Center for Health Services Research and Development, American Medical Association.

several sources of insurance. The distribution of the associated revenue flow toward the physician has already been shown in Figures 1 and 2 and Table 5.

Whatever the source of practice revenues may be, in principle it could flow to the physicians on the basis of one or more of the following payment mechanisms:

a. Fee-for-service;

b. Fee-per-medical case;

c. Prepaid capitation per specified period.

Note that the salary payment method is not included above. While individual physicians within a medical practice may be paid on the basis of salary, it is the medical practice, not the individual physician within the practice that is being considered here. In this connection, Gabel et al estimated that in 1977, 71% of U.S. non-federal, patient-care physicians practiced on a fee-for-service basis; 28% practiced on a salary basis and 1% on prepaid capitation basis.[16] Although they did not make the medical practice, individual physicians distinction, it is likely that they were dealing with individual physicians rather than medical practices. other estimates, performed by Burney et al.,[17] and Blumberg[18, 19] and the AMA put the percentages of U.S. physicians who derived their practice income from fee-for-service methods anywhere between two-thirds and 97% (see Tables 17, 18 and 19).

In the U.S., the second payment method -- fee-per-medical case -- occasionally emerges as part of the traditional fee-for-service system. Thus it is not uncommon that an obstetrician will bill his patients a flat fee for the entire case associated with a normal delivery, including pre- and post-natal office visits and in-hospital physician services. Similar arrangemnts are formed in connection with other types of well-defined, standard surgical

cases -- for example, herniographies or appendectomies. Aside from these cases, however, the fee-per-case method is rare, primarily because it is so difficult to delineate a medical case, especially among chronically ill patients. The predominant forms of compensation for private medical practices in the U.S. are fee-for-service and, to a much lesser degree, prepaid capitation systems.

Prepaid capitation methods pays the physician according to the number of persons service, regardless of the number of units of service performe.d This method is associated with physician groups including those resembling Health Maintenance Organizations. Prepaid capitation is a very interesting phenomenon in the U.S., primarily because the method confronts physicians with financial incentives to minimize the cost of treating medical cases. The phenomenon is therefore much studied in the U.S. and abroad in the hope that this form of physician reimbursement will promote competition and efficiency.

The relative magnitude of physician compensation via prepayment, however, is quite small. As indicated in Tables 16 and 17, an average of roughly 5 to 7 percent of total practice revenue is earned by medical practices on this basis. it is therefore reasonable to portray fee-for-service reimbursement as the basis on which American physicians are typically paid. The remainder of this part of the report concentrates solely on that compensation method.

3.3.1 Fee-for-Service Methods of Physician Compensation

It seems obvious that the current dominance of the fee-for-service method of paying physicians is likely to continue for many years. Virtually all proposals for medical cost containment assume the persistence of fee-for-service. Moreover, in view of the crucial role of physicians in determining medical resource allocation, understanding the development and dynamics of the fee-for-service system becomes a critical step in designing the reform of physician compensation in this country.

TABLE 17

PERCENT OF GROSS REVENUE BY SOURCE
OFFICE BASED NON-FEDERAL MD'S
BY SPECIALTY
1970

	FEE-FOR-SERVICE			
SPECIALTY	INSURED	UNINSURED	PREPAID	TOTAL
TOTAL	49.9%[b]	46.6%[c]	3.5%[d]	100
General Practice	40.2	55.8	3.1	100
Internal Medicine	51.4	43.9	3.3	100
Surgery	65.3	30.9	4.6	100
Obstetrics-Gynecology	56.9	40.0	1.9	100
Pediatrics	19.6	76.6	1.5	100
Psychiatry	32.1	65.9	1.0	100
Radiology	70.9	24.1	4.5	100
Anesthesiology	68.1	19.8	9.9	100
Other	39.7	58.3	4.1	100

[a] The row sum of the percentage figures for insured, uninsured and prepaid may not add to 100% because of rounding.

[b] Based on 2997 observations.

[c] Based on 3001 observations.

[d] Based on 2256 observations.

SOURCE: Blumberg, M.S. "Rational Provider Prices, An Incentive for Improved Health Delivery" p. 3, Table 2.

TABLE 18

PHYSICIAN NET INCOME, PERCENT WITH FEE-FOR-SERVICE PRACTICE, AND PERCENT USING RELATIVE VALUE SCALE BY PRACTICE ARRANGEMENT, 1976*

		Percent of Physicians	
Practice Arrangement	Net Income 1975	Fee-for-Service Practice	Using Relative Value Scale
Solo	$51,600	93.8%	39.2%
Group or Partnership	65,800	90.3	55.5
Expense Share	55,500	94.6	54.9
Other	45,100	49.6	42.8
Total	56,500	89.1	46.3

*Combination of questions A3, C3, D1 and D2.

Source: Eleventh Periodic Survey of Physicians. November 1976. Center for Health Services Research and Development, American Medical Association.

TABLE 19

PHYSICIAN NET INCOME, PERCENT WITH FEE-FOR-SERVICE PRACTICE, AND PERCENT USING RELATIVE VALUE SCALE BY SPECIALTY, 1976*

		Percent of Physicians	
Specialty	Net Income 1975	Fee-for-Service Practice	Using Relative Value Scale
General and Family Practice	$45,400	89.9%	41.6%
Internal Medicine	57,000	91.4	37.5
Surgery	68,200	96.0	63.6
Pediatrics	44,300	83.5	34.0
Obstetrics/ Gynecology	63,300	94.8	37.0
Radiology	75,200	82.4	47.9
Psychiatry	44,800	87.2	19.3
Anesthesiology	57,100	86.9	90.5
Other	54,900	63.9	39.2
Total	56,400	88.9	46.3

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*Combination of questions A1, C3, D1 and D2. Totals may differ from those in Table 6 because of different response rates.

Source: Eleventh Periodic Survey of Physicians. November 1976. Center for Health Services Research and Development, American Medical Association.

3.3.1.1 Basic Principles

The day-to-day operation of the fee-for-service system in the United States is complex almost beyond belief. On the one hand, there are five identifiable (not necessarily mutually exclusive) categories of patients: Medicare, Medicaid, Blues, commercially insured and uninsured patients. On the other hand, physicians (or medical practices) can be classified as Blue Shield participating physicians and nonparticipating physicians (they are mostly high-feed and are located in wealthy areas), or physicians who agree or refuse to treat Medicaid patients or physicians whose decision as to whether or not to take Medicare assignments depends on their volume of business. Actually, however, the fee-for-service system rests on a few basic principles that can be succinctly stated as follows:

1. The individual medical practice is free to set its own fees, subject only to the discipline of the market.

   Because the single most important underlying mechanism of fee-setting is that of the UCR (such as used in Medicare), American physicians systematically increase their fees over time so as to upgrade their "fee profiles" which are the basis for the determination of third-party allowable payments in the coming year. With the exception of Medicaid and Blue Shiled par programs, the physician can always charge the patient whatever fees he deems reasonable. In any case, since his charges will be recorded as his "usual" fees in the UCR data compilation, he is likely to overcharge even when he does not expect to be paid in full.

2. The individual physician enjoys the right of free choice among patients certainly in non-emergent casess.

   Many physicians refuse to take Medicaid patients because the acceptance of Medicaid's payment as payment-in-full is mandatory. On the

other hand, the physician can accept or refuse Medicare assignment on a case-by-case basis, depending on his volume of business at the time. Now, however, with the increasing supply of physicians in the market, physicians are more likely to be willing to take Medicare patients.

3. The individual medical practice may vary its fees on a patient-by-patient basis.

Although there is no evidence that the physician systematically varies his fees according to, say, patients' insurance status, it is quite possible, for example, for a Blue Shield participating physician to charge a non-Blue Shield, wealthy patient a higher fee than the Blue Shield payment level. The physician may also charge lower fees to the uninsured patients, and will surely charge his non-Medicaid patients higher fees than his Medicaid patients and so on.

4. The individual medical practice is not obliged to announce its fees in advance (although most of them find it proper to do so upon the patient's request).

Shopping for physicians is not common in the U.S. Patients are generally quite hesitant in making inquiries about fees in advance. Quite often, he first becomes aware of the fee charged upon receipt of his bill. Even if the patient does inquire in advance, he will most likely be asked to go in for an "initial examination and consultation" before he receives an estimate of the fee. This practically prevents him from shopping for another physician, because he will have to go through a similar examination before he can obtain fee information from the second physician. Furthermore, the literature on increasing competition among providers of health services and insurers for the purpose of containing health care costs commonly assumes that the consumers are fairly well

informed about their insurance coveage; however, this is not the case. The topic of consumers' knowledge of their health insurance coverage has not received much research; and those few studies on this topic consistently found that consumers are quite ignorant about their health insurance policies and coverages for specific services.[20] Therefore, unsure whether his visit to a second physician will be covered by insurance, the patient is likely to stay with the first physician once he has made the initial contact.

The principles listed above frequently vex those critics of the health care sector who tend to view physician care as a quasi public good whose pricing should not be left to the individual physician. Organized American medicine, on the other hand, has always viewed these principles as the *sine qua non* of high-quality health care and has vehemently opposed any attempts to deviate from them. Recently, however, the medical profession has shown signs of being more tolerant of alternatives to the fee-for-service practices.

It is immediately apparent from these principles that many "schedules of fees" that have emerged under the American system are either some retrospective statistical summary (e.g., Medicare Directory of Prevailing Charges, Surgical Prevailing Healthcare Charges Systems published by Health Insurance Association of American and the various UCR listings) or a set of guidelines to which the individual practice may or may not adhere (e.g., California Relative Value Studies, Blue Shield fee list used by a participating physician as reference to charge his non-Blue Shield patient or used by a nonparticipating physician for reference). With the exception of Medicaid fee schedules and Blue Shield PAR-program enforced maximum allowable payment schedule, all other schedules of fees do not constitute the externally imposed price ceilings they tend to represent in other nations.

3.3.1.2 Major Historical Development in Fee-For-Service in the U.S.

Many researchers contend that a good part of the misallocation of medical resources can be attributed to adverse incentives inherent in the fee-for-service methods of physician compensation, particularly those incentives inherent in the relative fees. one must wonder, then, from where the current relative fees come. The origins are lost in history, but a good many of our recent fee conventions existed or developed during the nineteenth century.

In the U.S., formal schedules of fee and local medical societies developed together. Indeed, the first order of business at the first meeting of the first medical society -- the New Jersey State Medical Association, founded in 1766 -- was to have a committee draw up a fee schedule. Table 20 summarizes four eras in fee-for-service compensation for physicians' services. While no elaboration will be made of this Table, it is important to point out that the evolution of each of the two presently well-known alternative fee-for-service methods, fee schedules and UCR, is linked to that of the other.

3.3.1.3 Billing Practices

In transactions with patients, a medical practice may adopt one or a combination of the following two policies:

A. The practice may bill patients directly and collect payment from them, leaving it up to the patients to seek reimbursement from their health insurance carrier (if any).

B. The practice may submit a claim on the patient's behalf to the patient's insurance carrier. If this option is chosen, the practice may either:

TABLE 20

MAJOR ERA IN U.S. FEE-FOR-SERVICE PHYSICIAN REIMBURSEMENT SYSTEM BY SYSTEM CHARACTERISTICS

		BASIS FOR PHYSICIAN FEES	
ERA	SOURCES OF PAYMENT	METHOD SOURCE	MECHANISM AND USE
I Prior to 1920	Direct from patient	Formal fee schedules based on physician concensus	Stated fee was a minimum
II 1920'2 to 1940's	Early third-party payers: - Workmen's compensation Welfare EMIC "Blue Shield" V.A.	Formal fee schedules based on Era 1 and physician consensus Substantial negotiation on fee schedules between	Fixed prices with a unit price negotiated by third party and physicians
II 1950's to 1965	Rapid growth of private health insurance -- Blue Shields, Commercial Indemnity Plans, and Foundations for Medical care	Relative values (CRVs) - first based on physician surveys of charges - later based on charges to third parties - physician committee consensus for changes and additions	Conversion Factor - negotiated by third parties (full service plans-fixed price) - set by third party, in effect, a fixed price
IV 1965 to present	Introduction of Medicare and Medicaid, growth of other third parties	UCR Methods - first based on physician-signed surveys for all patients - later based on charges to third parties	Maximum price based on fee screens set and updated by third parties Mode approaches the "maximum"

SOURCE: Based on Blumberg, M.S. "Physician Fees as Incentives," Chart 1.

1. Accept the fees paid by the insurance carrier as payment in full; or
2. Collect from patients amounts in addition to the fees collected from the insurance carrier, either at point of service or with a subsequent invoice.

These two distinct approaches will now be discussed, in turn.

3.3.2 Fees Paid by Uninsured Patients or Patients with Indemnity Insurance

Many medical practices in the United State prefer to deal only with their patients and not directly with third-party payers. Under this approach, the practice bills the patient whatever it wishes and whatever the patients ultimately agree or can be made to pay. For patients without insurance coverage for the particular services rendered, the matter rests there. Patients who do have insurance coverage for these services will then seek "reimbursement" (also called indemnification) from the insurance carrier. The latter may base the reimbursement on a fee schedule or Usual, Customary and Reasonable fees. These practices are to be described further on.

In the traditional solo practice, these billings often were based on a sliding scale of fees, in accordance with the physicians's subjective assessment of the patient's ability to pay. The latter was typically assessed by having patients identify their occupational status. In some practices, particularly those in rural areas or small towns, this practice may persist to this day. More commonly, however, physicians now operate on some internal fee schedule with varying degrees of detail and refinement. To facilitate handling of patient bills by clerks or outside computerized billing services, the fee schedules used in this context are typically simple, containing a few dozen major items for frequent procedures and a provision for the ad-hoc determination by physicians of less common procedures. A typical bill for,

say, a complete annual physical examination of a patient may appear under this system as:

Complete Physical Examination	$50
Blood Test	12
Pap Smear	10
	$72

Frequently the patient is asked to pay the bill at the cashier's window upon leaving the practice. Alternatively, the patient is sent a bill for payment by check.

Data on the fees billed by physicians directly to their patients can generally be retrieved only through surveys of medical practices. Tables 21 to 23 present data from the American Medical Association's annual surveys of self-employed physicians. It is seen that the basic fee for a "visit" tends to be high by European standards. On the other hand, one does not usually find on the American physician's bill the many separate items billed by the European counterparts, with the exception of major procedures that involve expensive machinery or laboratory personnel. Thus, it is reasonable to assume that the basic fees for "visits" shown in the tables constitute the bulk of the charges per ambulatory contact with a physician. This conclusion can be corroborated with independent data as follows.

First, as is indicated in Table 24, the average charge per ambulatory contact (however paid) was about $23 in 1977. The data in this table are based on a recent survey of 14,000 randomly-selected households that were interviewed six times during January 1 to December 31, 1977.[21]

Second, as was shown in Table 16, for 1977 the internists in private practice reported an average of $107,200 in gross revenue (prior to deduction of expenses and taxes), a figure that differs from gross billings only by

TABLE 21

Average Fee for Initial Office Visit by Specialty, 1970-1979[a]

Specialty	1970	1971	1973	1974	1975	1976[c]	1978	1979[c]	Compound Percentage Growth 1970-1979
All Specialties[b]	$14.23	$16.00	$16.98	$19.55	$21.20	$24.86	$27.60	$30.47	8.8%
Gen. Practice	8.46	9.65	10.74	12.03	13.11	14.80	16.55	18.21	8.9
Int. Medicine	17.81	20.38	20.51	23.11	26.11	31.27	32.53	38.18	8.8
Surgery	14.72	16.43	17.69	18.87	20.81	23.29	26.52	29.04	7.8
Pediatrics	9.95	11.18	12.20	14.49	16.18	17.45	19.03	21.06	8.7
Ob./Gynecology	14.23	17.59	19.68	22.07	23.57	27.41	29.85	30.70	8.9
Psychiatry	32.64	35.58	37.51	41.39	44.61	50.15	54.63	56.80	6.3

[illegible]o comparable data point is available for 1972 and 1977. [b] Total includes Radiology, Anesthesiology, and "Other" categories. [c] Projected by physician respondents.

Source: Periodic Survey of Physicians, 1972-1979. Center for Health Services Research and Development, American Medical Association.

Average Fee for Follow-up Office Visit by Specialty, 1971, 1973-1976, 1978, 1979[a]

	Year						
Specialty	1971	1973	1974	1975	1976	1978	1979
General Practice	$6.93	$ 7.52	$ 8.75	$ 9.29	$10.65	$12.15	$13.67
Internal Medicine	9.96	11.13	12.28	13.56	15.52	16.83	19.89
Surgery	9.18	10.34	11.27	12.22	13.94	15.91	17.61
Pediatrics	7.89	8.65	10.38	11.07	12.52	13.72	15.65
Obstetrics-Gynecology	9.52	11.53	13.10	13.73	15.40	18.23	19.04

[a] A follow-up office visit is defined as "office visit, established patient, brief examination, evaluation and/or treatment, same or new illness."

Source: Periodic Survey of Physicians, 1971-1979. Center for Health Services Research and Development, American Medical Association.

SOURCE: American Medical Association (1980a), Tables 30 and 33, pp. 198 and 201.

TABLE 22

Average Fee for Follow-up Hospital Visit by Specialty and Location, 1979

Specialty	Total N	Total Mean	Location: Nonmetropolitan (N = 521)	Location: Metropolitan, Less than 1,000,000[b] (N = 1072)	Location: Metropolitan, 1,000,000 and over[c] (N = 1380)
			Mean		
Total[a]	2,973	$25.56	$19.24	$24.05	$29.12
General Practice	662	19.06	17.17	19.12	20.74
Internal Medicine	670	25.11	18.62	21.67	28.89
Surgery	792	24.91	18.91	23.23	28.80
Pediatrics	219	23.32	20.38	20.46	26.16
Obstetrics-Gynecology	253	27.03	23.48	24.10	29.83
Psychiatry	174	48.60	35.83	49.74	49.45
			Standard Error of the Mean		
Total		.325	.526	.576	.478
General Practice		.388	.604	.735	.657
Internal Medicine		.586	1.094	.815	.887
Surgery		.545	.912	.768	.932
Pediatrics		.839	2.577	1.327	1.137
Obstetrics-Gynecology		.896	2.739	1.124	1.380
Psychiatry		2.603	6.271	6.792	2.128

[a] Total includes Radiology, Anesthesiology, and "Other" categories. [b] Includes counties in SMSAs with 50,000 to 999,999 inhabitants and counties considered potential SMSAs. [c] Includes counties in SMSAs with 1,000,000 or more inhabitants.

Source: Thirteenth Periodic Survey of Physicians. March 1979. Center for Health Services Research and Development, American Medical Association.

SOURCE: American Medical Association (1980a), Table 37, p. 205

TABLE 23

Average Fee for Appendectomy by Census Division and Specialty, 1979[a]

	Total		Specialty		
Census Division	N	Mean	Gen. Practice (N=146)	Surgery (N=293)	Ob./Gyn. (N=53)
				Mean	
Total[a]	546	$374.42	$336.02	$424.06	$382.51
New England	29	347.79	b	367.67	339.17
Mid Atlantic	66	391.15	b	430.37	364.29
East North Central	87	320.74	289.71	388.67	b
West North Central	55	298.42	271.60	314.79	b
South Atlantic	71	383.10	291.67	417.55	317.50
East South Central	39	297.54	292.31	340.74	b
West South Central	66	342.33	313.71	425.75	407.14
Mountain	38	396.21	341.94	433.37	b
Pacific	95	502.76	461.06	562.96	574.25
		Standard Error of the Mean			
Total		6.297	10.907	7.491	22.355
New England		21.909	b	26.010	28.297
Mid Atlantic		19.253	b	19.060	37.344
East North Central		12.781	24.762	9.836	b
West North Cental		15.638	22.310	24.668	b
South Atlantic		12.976	15.366	13.935	27.399
East South Central		15.632	18.859	18.104	b
West South Central		15.076	13.941	20.214	76.710
Mountain		14.074	23.732	12.752	b
Pacific		18.102	26.019	22.296	83.240

[a] Total includes Internal Medicine, Pediatrics, Anesthesiology, Psychiatry, and "Other" categories.

[b] Data do not meet reliability standards.

Source: Thirteenth Periodic Survey of Physicians. March 1979. Center for Health Services Research and Development, American Medical Association.

SOURCE: American Medical Association (1980a), Table 38, p. 206.

TABLE 24

Charges and sources of payment for ambulatory physician services: Mean charge per contact, percent without charge or where charge was unknown, and average proportion paid by different sources of payment

(NMCES household data: United States, January 1-December 31, 1977)

Population characteristics	Mean charge per contact	Without charge[a]	Unknown charge	Source of payment					Source of payment unknown[c]
				Family	Private health insurance	Medicare	Medicaid	Other[b]	
	$	Percent		Average proportion paid					Percent
Total	23	13.3	35.7	0.65	0.15	0.02	0.10	0.10	7.0
Age in years									
Less than 6	17	18.9	38.2	0.70	0.07	0.00	0.14	0.08	4.1
6 to 18	20	15.0	36.5	0.65	0.15	0.00	0.12	0.08	5.3
19 to 24	26	11.6	39.9	0.59	0.16	0.00	0.11	0.14	6.2
25 to 54	24	12.3	35.9	0.61	0.19	0.01	0.08	0.10	6.2
55 to 64	24	10.8	31.6	0.68	0.14	0.01	0.08	0.09	5.6
65 or older	22	12.6	32.6	0.72	0.06	0.17	0.08	0.05	16.7
Sex									
Male	24	12.7	37.7	0.61	0.18	0.03	0.07	0.13	7.3
Female	22	13.7	34.4	0.67	0.13	0.02	0.11	0.07	6.8
Color									
White	23	14.0	33.5	0.67	0.16	0.02	0.07	0.09	7.0
All other	22	7.7	52.7	0.46	0.10	0.03	0.29	0.12	7.1
Family income[d]									
Less than $8,000	23	10.2	44.2	0.55	0.07	0.08	0.24	0.10	10.5
$8,000 to $17,999	21	12.9	35.2	0.66	0.15	0.01	0.08	0.10	5.8
$18,000 or more	24	15.0	32.2	0.68	0.19	0.01	0.03	0.09	6.3
U.S. Census region									
Northeast	22	11.3	34.3	0.65	0.16	0.02	0.11	0.06	6.5
North Central	21	13.6	30.5	0.66	0.19	0.01	0.08	0.06	6.0
South	22	12.5	34.0	0.70	0.10	0.04	0.07	0.12	6.3
West	28	16.7	48.4	0.53	0.14	0.01	0.15	0.16	10.3
Education of family head[d]									
Less than 8 years	21	8.8	40.0	0.60	0.11	0.03	0.19	0.07	8.7
9-11 years	23	10.9	38.1	0.60	0.13	0.06	0.15	0.10	8.4
12 years	23	12.9	32.8	0.66	0.17	0.01	0.07	0.10	6.1
13-15 years	23	14.2	33.8	0.67	0.16	0.01	0.04	0.12	5.9
16 or more years	25	20.9	35.0	0.71	0.18	0.01	0.01	0.09	6.5
Place of residence									
SMSA	24	14.2	37.6	0.63	0.15	0.03	0.11	0.10	7.5
Not SMSA	20	11.1	31.2	0.68	0.15	0.01	0.07	0.09	5.8

[a] Includes contacts in prepaid group practices and those free from provider. [b] Includes CHAMPUS, CHAMPVA, the Indian Health Service, the Veterans Administration, the military, and other federal, state, city or county payers or providers. [c] Source of payment or amount paid unknown. [d] Excludes persons with negative income and persons with unknown education, respectively. 0.0 indicates quantity greater than 0.00 but less than 0.005.

Note: The data in this table are based on provisional estimates made in the National Health Care Expenditures Study, National Center for Health Services Research.

SOURCE: Kasper et al. (1980), Table 2.

uncollected billings (about 5 to 7 percent of gross billings). Internists work an average of 47 weeks per year and report an average of about 120 patient visits in either their office or the hospital. Thus, the average gross billing per "visit" must have been around $20 in 1977, a figure that probably had risen to $22 by 1978.

It may be noted in passing that American internists report an average of 2.5 patient visits per practice hour (American Medical Association [1977]). At an average billing of $22 per visit, they were thus pricing their services at an average of about $55 per hour in 1978. Since practice expenses run at about 40% of gross billings, their pretax net income was about $33 in 1978.

Physicians increase their fees to keep income in pace with inflation, although this does not mean that they raise fees by as much as the Consumer Price Index raises. Suppose, in 1980, a physician's average billing per patient visit was $23.88 and had billings of $133,000 (based on the median figure of 116 patient visits per week reported by physicians in all fields in the 1980 Medical Economics Continuing Survey, assuming 48 work weeks per year), gross receipts of $125,000 (a 94% collection ratio), and a net practice income of $75,000. If the physician wishes to boost his practice net in 1981 by the estimated increase in the overall Consumer Price Index of abround 12%, he must take into consideration not only his fees but his patient volume, his collection ratio, and his professional expenses. Thus, the amount by which he will have to raise his fees will vary with his practice circumstances. Some business consultants advised their physician clients to make small changes in their collection ratio and patient-visit rate that would modify the size of the fee increase needed to keep up with inflation. For example, the same 12% increase in net revenue can be achieved by the physician simply by raising his fees by 10% and leaving everything else unchanged (all examples here assume a

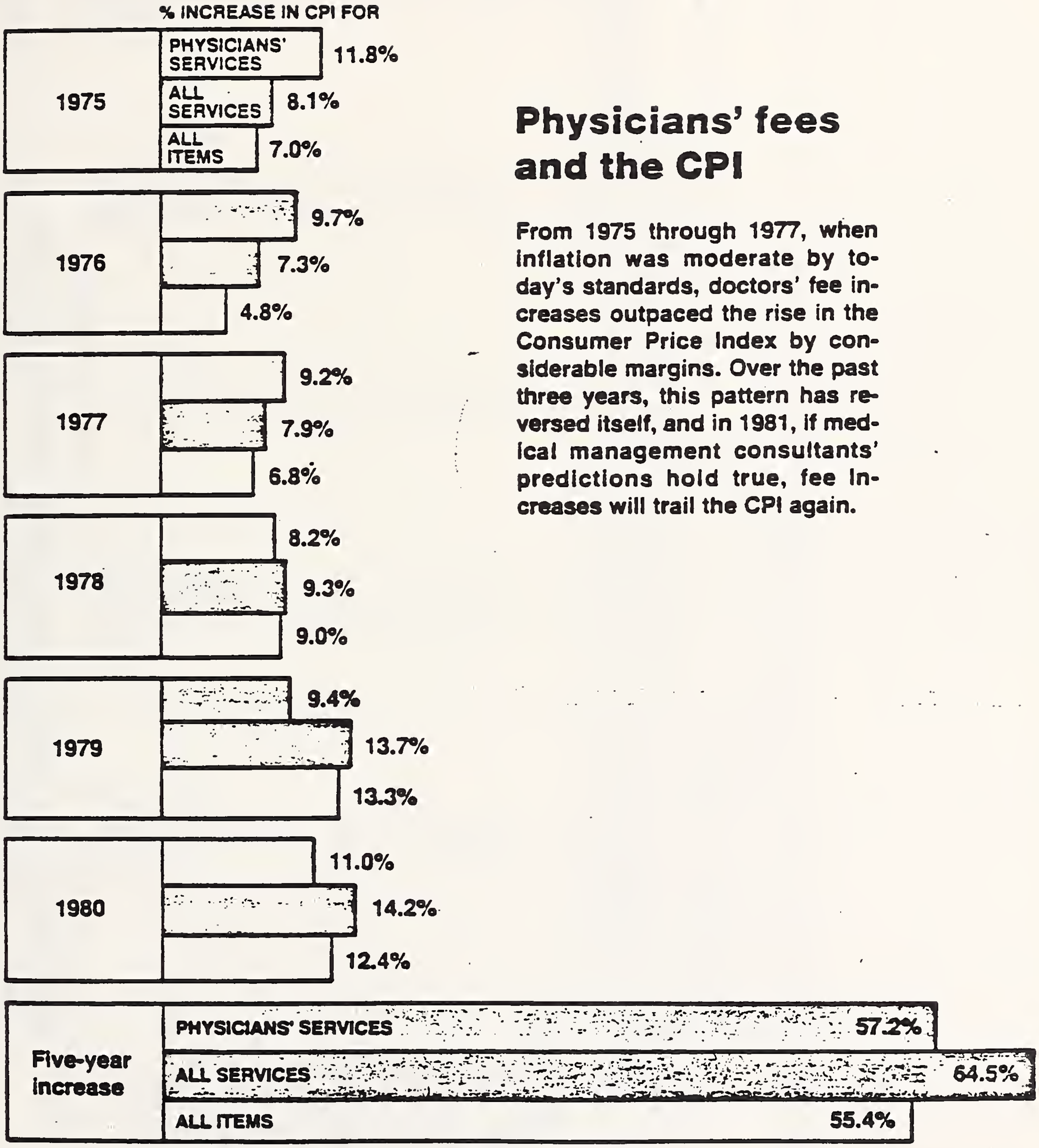
7% rise in expenses -- the median for office-based physicians in the Survey), or, alternatively, by increasing his collection ratio by 2 points and raising his fees by 7.7%, or by increasing his collection ratio by 2 points and his patient visits by 2% and raising his fees by 5.6% only, and so on.

Until 1977, physician's fees increased more quickly than the CPI (Fig. 3). However, since then, the CPI has outpaced increases and incomes have only kept up with inflation by increasing profit margins due to productivity gains and cost controls.

In fact, as is evident from Tables 25 to 28, physicians' real pretax net incomes, after adjustment of general price inflation, have tended to decrease during the 1970's. This tendency is more readily apparent from Table 29 and Figure 4. The averages presented in these displays come from different, independent surveys. They may mash a cohort effect -- that is, the fact that in a rapidly growing stock of physicians, overall average incomes are pulled down by the presence of relatively more young physicians at the low end of their lifetime earnings profiles. Even so, it is now widely accepted among students of the American health care sector that real physician incomes in the U.S. are likely to have declined during the 1970's even after adjustment for the cohort-effect and that they are apt to do so during the 1980's, when an ever growing physician supply will press against the nations' increasingly constrained overall health care budget.

Due to the general decline in real physician incomes and the fact that most third-party payers base their reimbursement to physicians on the average (or median, or modal) fee that the physician charges his patients in the previous year, medical consultants generally recommend raising fees at least once a year in order to upgrade a physician's fee profile.) It is feared that if a physician's fee profile is too low, he may get inadequate reimbursement

FIGURE 3



All figures are based on the Consumer Price Index for December of each year. Source: U.S. Bureau of Labor Statistics.

Physicians' fees and the CPI

From 1975 through 1977, when inflation was moderate by today's standards, doctors' fee increases outpaced the rise in the Consumer Price Index by considerable margins. Over the past three years, this pattern has reversed itself, and in 1981, if medical management consultants' predictions hold true, fee increases will trail the CPI again.

TABLE 25

Annual Percentage Change in Physicians' Average Gross Income, Professional Expenses, Net Income, and Initial Office Visit Fee, 1970-1979

	Annual Percentage Change				
Year	Average Gross Income	Average Professional Expenses	Net Income	Initial Office Visit Fee	All Items Component of the CPI[a]
1970-1971	12.3%	18.9%	8.4%	12.4%	4.4%
1971-1972	5.8	8.3	4.2	3.0[c]	3.0
1972-1973	2.9	2.9	3.0	3.0[c]	5.7
1973-1974	6.4	5.6	7.0	15.1	11.5
1974-1975	10.3	13.2	8.5	8.4	9.6
1975-1976[b]	7.4	10.1	5.5	17.3	5.4
1976-1977	4.7	7.3	2.9	5.4[d]	6.7
1977-1978	4.9	2.0	7.0	5.4[d]	7.7
1978-1979[b]	5.9	7.5	4.7	10.4	11.3
Entire Period 1970-1979	6.7	8.3	5.7	8.8	7.2

[a] Percentage change computed using the July index numbers. [b] Income and expense data for 1976 and 1979 projected by respondents. [c] Comparable fee data do not exist for 1972, annual average computed using 1971 and 1973 fees. [d] Comparable fee data do not exist for 1977, annual average computed using 1976 and 1978 fees.

Sources: Periodic Survey of Physicians, 1972-1979. Center for Health Services Research and Development, American Medical Association.

Consumer Price Index (Bulletin), Bureau of Labor Statistics, Washington, D. C.

Published by American Medical Association (1980a), Table II, p. 42.

TABLE 26

Average Net Income from Medical Practice by Specialty, 1970-1979

Specialty	1970	1971	1972	1973	1974	1975	1976[b]	1977	1978	1979[b]	Compound Percentage Growth 1970-1979
All Specialties[a]	$41,800	$45,300	$47,200	$48,600	$52,000	$56,400	$59,500	$61,200	$65,500	$68,600	5.7%
Gen. Prac.	33,900	39,800	41,300	41,900	44,700	45,400	47,400	51,200	54,600	55,500	5.6
Int. Med.	40,300	42,900	44,700	47,800	51,400	57,000	60,500	61,500	63,800	66,800	5.8
Surgery	50,700	54,000	56,000	57,200	60,500	68,200	73,200	74,000	82,600	86,800	6.2
Pediatrics	34,800	38,500	38,900	41,200	42,100	44,300	47,000	48,200	51,200	54,400	5.1
Ob./Gyn.	47,100	51,100	53,200	55,400	61,700	63,300	65,800	69,900	70,300	73,600	5.1
Psychiatry	39,900	37,200	39,100	38,500	41,300	44,800	47,600	48,200	50,200	53,200	3.2
Anesthesiology	39,400	47,300	49,500	48,100	54,400	57,100	60,100	65,500	74,200	78,100	7.9

[a] Total includes Radiology and "Other" categories. [b] Projected by physician respondents.

Source: Periodic Survey of Physicians, 1972-1979. Center for Health Services Research and Development, American Medical Association.

blished by American Medical Association (1980a), Table I, p. 40.

TABLE 27

Average Tax Deductible Expenses by Specialty, 1970-1979

Specialty	1970	1971	1972	1973	1974	1975	1976[b]	1977	1978	1979[b]	Compound Percentage Growth 1970-1979
All Specialties[a]	$24,300	$28,900	$31,300	$32,200	$34,000	$38,500	$42,400	$45,500	$46,400	$49,900	8.3%
Gen. Prac.	24,200	32,100	34,500	34,000	36,700	38,600	42,400	46,100	47,800	51,600	8.8
Int. Med.	25,500	28,300	31,300	34,000	35,800	40,400	45,600	45,600	44,800	49,200	7.8
Surgery	27,100	32,900	35,800	38,000	39,300	49,100	54,800	60,400	63,400	67,500	10.7
Pediatrics	24,900	28,500	30,000	32,400	30,000	34,600	36,600	39,100	35,100	36,800	4.4
Ob./Gyn.	27,700	33,300	36,500	37,200	41,900	48,500	54,400	60,900	61,900	65,500	10.0
Psychiatry	13,300	13,000	14,100	14,300	14,000	18,700	19,800	19,300	24,200	25,600	7.5
Anesthesiology	11,200	12,700	13,900	14,000	19,300	20,000	22,200	25,900	25,300	28,000	10.7

[a] Total includes Radiology and "Other" categories. [b] Projected by physician respondents.

Source: Periodic Survey of Physicians, 1972-1979. Center for Health Services Research and Development, American Medical Association.

Published by American Medical Association (1980a), Table III, p. 43.

TABLE 28

Average Income Per Physician and Per Capita Expenditures for Physicians' Services, Nominal and Real, 1968 and 1978

	Year 1968	Year 1978	Average Annual Percent Increases
Per Capita Expenditures for Physicians Services[1]	$54.36	$160.47	11.4%
Per Capita Expenditures for Physicians' Services Deflated by the CPI for Physicians' Services	$51.48	$71.93	3.4
Average Gross Income per Physician[2]	$57,152	$111,900	7.0
Average Gross Income per Physician Deflated by the CPI for Physicians' Services	$54,121	$50,157	-0.8
Average Total Tax Deductible Professional Expenses per Physician[2]	$19,780	$46,400	8.9
Average Total Tax Deductible Professional Expenses per Physician Deflated by the CPI for All Items	$18,983	$23,722	2.3
Average Net Income from Medical Practice per Physician[2]	$37,372	$65,500	5.8
Average Net Income from Medical Practice per Physician Deflated by the CPI for All Items	$35,866	$33,487	-0.7
CPI for Physicians' Services (1967=100.0)	105.6	223.1	7.8
CPI for All Items (1967=100.0)	104.2	195.6	6.5
CPI for Physicians' Services Deflated by CPI for All Items (1967=100.0)	101.3	114.1	1.2

[1] Robert M. Gibson, "National Health Expenditures, 1979", *Health Care Financing Review*, Summer 1980.

[2] American Medical Association, *Profile of Medical Practice*, AMA Center for Health Services Research and Development, 1972 and 1980 editions.

SOURCE: Freeland and Schendler (1981), Table 10, p. 121.

TABLE 29

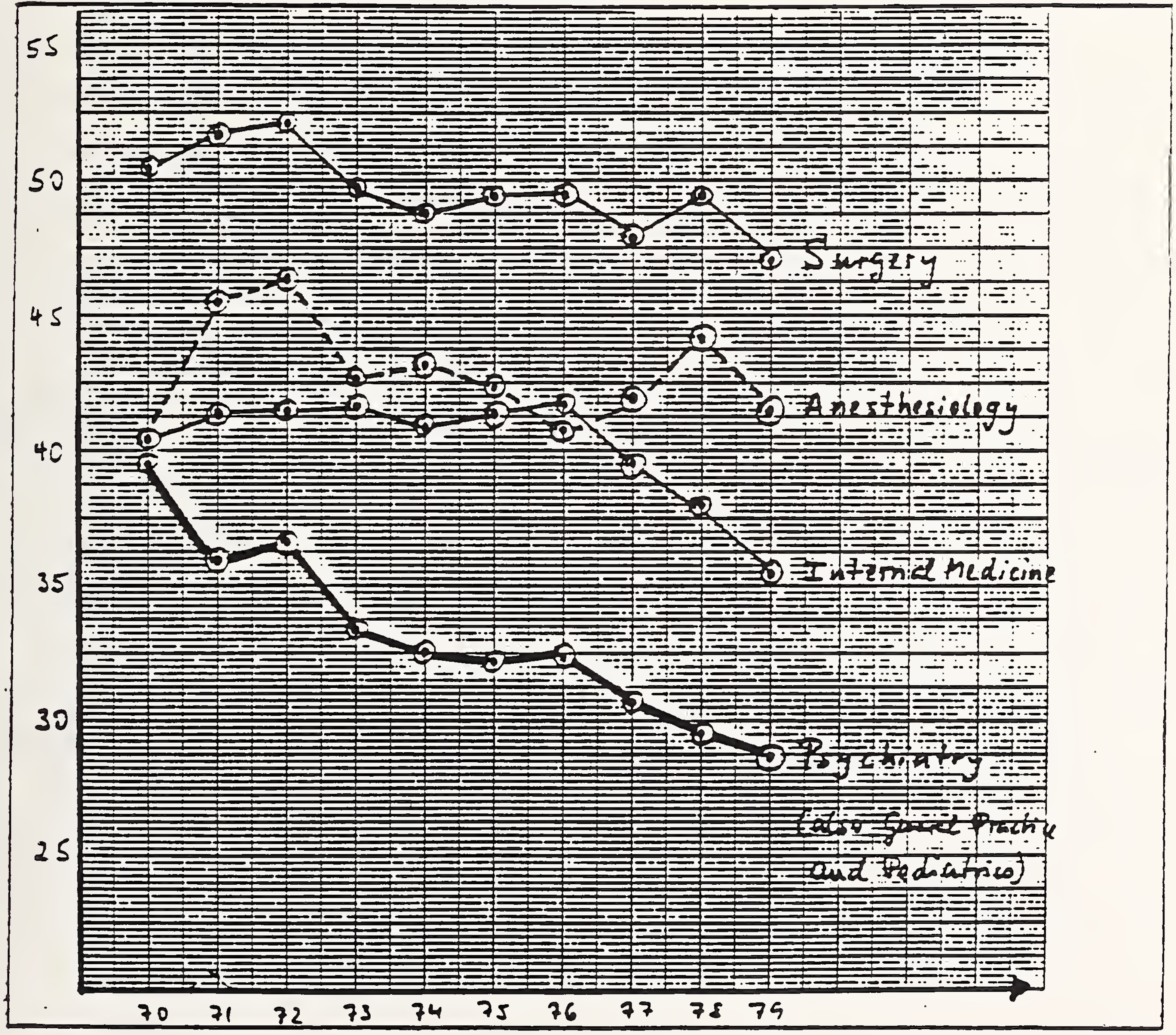
CHANGES IN REAL MEDIAN NET PRETAX PRACTICE INCOME
OF AMERICAN PHYSICIANS IN PRIVATE OFFICE PRACTICE
1973 TO 1978

SPECIALTY AND TYPE OF PRACTICE	MEDIAN NET PRACTICE INCOME			PERCENTAGE CHANGE IN REAL INCOME	
	1973 (In 1973 Dollars)	1978 (In 1978 Dollars)	1978 (In 1973 Dollars)	1973-78	Average Annual Change
	$	$	$	%	%
INCORPORATED MD'S					
General Practitioners	55,500	71,030	48,370	-12.8	-2.7
Family Practitioners	55,000	66,940	45,590	-17.1	-3.7
Internists	58,750	73,610	50,130	-14.6	-3.1
General Surgeons	67,500	88,750	60,440	-10.5	-2.2
OBG'S	72,500	88,400	60,200	-16.9	-3.7
Pediatricians	55,000	67,050	45,660	-17.0	-3.7
All Surgical Specialists	72,500	93,670	63,790	-12.0	-2.5
All Non-Surgical Specialists	65,000	76,300	51,960	-20.0	-4.4
All Fields	67,500	82,260	56,020	-17.0	-3.7
	$	$	$	%	%
UNINCORPORATED MD'S					
General Practitioners	37,890	45,670	31,100	-17.9	-3.9
Family Practitioners	40,630	58,130	39,590	- 2.6	-0.5
Internists	43,100	53,700	36,570	-15.2	-3.2
General Surgeons	47,290	62,500	42,560	-10.0	-2.0
OBG'S	51,830	63,210	43,050	-16.2	-3.5
Pediatricians	38,330	49,060	33,410	-12.8	-2.7
All Surgical Specialists	49,550	62,210	42,370	-14.4	-3.1
All Non-Surgical Specialists	41,810	54,170	36,890	-11.8	-2.5
All Fields	42,140	54,700	37,250	-11.6	-2.4

SOURCE: Adapted from MEDICAL ECONOMICS (September 17, 1979), pp. 192-93. (There were 2,034 usable responses to 14,822 mailed questionnaires.)

FIGURE 4

REAL AVERAGE PRETAX NET PRACTICE INCOME PER PHYSICIAN IN SELECTED SPECIALTIES IN CONSTANT 1970 U.S. DOLLARS 1970-78



SOURCE: Data on physician incomes from American Medical Association (1980a) Table 45, p. 217. These data were deflated by the U.S. Consumer Price Index.

from Medicare and Blue Shield. Furthermore, if a physician does not raise fees in one year, he may find it difficult to catch up in later years. Most patients, on the other hand, will not dramatically alter their behavior if fee hikes are reasonable. Some physicians review their fees biannually, while most do so annually. They may choose across the board or selective increases. Physicians may prefer to increase fees for one time or infrequent treatments rather than office visit fees. Specialists may increase fees by varying amounts so as to maximize total revenue. For instance, a surgeon may increase charges for surgical procedures by more than charges for office visits and achieve a large overall revenue increase. However, a general practitioner would concentrate his increases on general office procedures. Fees for x-rays, lab work and medical supplies generally rise to keep up with increasing costs faced by physicians in purchasing them.

3.3.2.1 Illustration of Medical Care Transaction

As alluded to above, quite often for the same service, a typical American physician's bill does not contain the many separate items found in the European physician's bill. Furthermore, because of the difference in medical practice and financial arrangment, the fees supposedly charged for the same service in the two countries may represent quite different service components. In this section, several selected procedures will be followed through from beginning to conclusion in order to illustrate the service as well as fiscal flows involved in the transaction of American physicians' services. The illustration also serves as the basis for meaningful comparison of fees and medical practice between the American physicians and their European counterparts.

1. Obstetric Delivery

Included in the physician's fee for obstetric delivery are pre-natal and post-partum care (approximately 15 office visits), in-hospital service,

and all the prescriptons for medications as well as telephone consultations. These services are provided under one fee and, often, regardless of the patients' insurance status: Blue Shield, Medicaid, commercial or uninsured. In other words, the obstetrician bills his patient a flat fee for the entire care associated with a normal pelvic delivery. In the majority of cases (where the patient has insurance coverage) the patient is required to "pay-as-she-goes" which is about once per month. Patients without insurance coverage are usually required to pay a substantial amount of the fee, say, $500, initially in order to establish physician utilization. In the cases where the patient's insurance is considered substantially adequate (covering approximately 100% of the physician's fee), however, the physician may allow the patient to pay the fee in full after the services are completed.

2. Pediatric Care: Well- and Sick-Baby

For both well- and sick-baby care, payment at the end of each visit (over-the-counter) is most common. Examination procedures as well as any necessary prescriptons are included in one "office visit" fee; all other lab work (including immunizations, necessary injections other than immunizations, tests, cultures, etc.) are billed over and above the regular "office visit" fee. Over-the-phone consultations with the pediatrician regarding minor illnesses or parents' inquiries are very common in the United States and are rendered "free of charge" along with any prescriptions which the consultation deems necessary. Some pediatricians charge a flat fee for an entire year of "office visits" (routine examinations and minor problems).

If a child has to be admitted to a hospital emergency room, the physician (usually the child's own pediatrician) does not require his fee to be paid "on-the-spot". In fact, in all emergency cases, the physician will bill for his services afterwards. In addition, the hospital will bill the patient for the use of the emergency room and the ambulance, if one is used.

3. Appendectomy

Like obstetric care, a surgeon's fee for an appendectomny covers the entire case associated with an appendectomy: pre- and post-operative care and in-hospital physician care (usually the same surgeon). In the case of emergency appendectomny, the patient usually is not required to pay until after the service is completed.

4. Terminal, Chronic Illness

Most insurance policies sold by Blue Shield offer up to $1 million in maximum benefits. In 1981, 93% of the comprehensive major medical policies sold by commercial carriers had maximum benefits of $100,000 or more; 86% had benefits of $1 million or more; or no limit. Terminally ill persons with these types of medical insurance coverage will not face financial hardship due to their illness. However, persons without such coverage will most probably have to rely on personal savings to pay medical bills, or even be forced to go on welfare. The situation regarding Medicare and Medicaid patients is quite different. First, Medicare and Medicaid do not stipulate limits for maximum benefits. Medicare (Part B) requires that the beneficiary be responsibble for the first $75 deductible and 20% of all allowable charges thereafter, as well as any excess of fees actualy charged by physicians above the Medicare allowable charges. Since approximately 50% of all Medicare claims are charged in excess of the medicare maximum allowable rates by physicians, however, elderly persons often have to purchase additional private insurance to cover physicians' expenses or pay out-of-pocket. Terminally ill, elderly persons can conceivably incur quite extensive medical expenditures. In 1978, approximately only 56% of the elderly's physician expenditures were paid by Medicare; 3% paid by other public programs (primarily Medicaid); the remaining 41% were paid by private sources (either private insurance or out-of-

pocket).[23] On the other hand, physicians who treat Medicaid patients cannot charge anything in excess of Medicaid rates; they must accept Medicaid payment as "payment in full." Theoretically, Medicaid patients should be able to receive care free of charge and without limit of benefit. In reality, however, most physicians refuse to accept Medicaid patients because of the mandatory Medicaid assignment restriction. Consequently, Medicaid patients are confined to a few practices, often set up only for Medicaid business.

3.3.3 Fees Charged When Third-Party Payers are Billed Directly

In describing the role of physicians' fees in direct transactions between medical practices and third-party payers, it is best to distinguish between the major American health insurance carriers, namely:

1. Transactions with Medicare Program;
2. Transactions with Medicaid Program;
3. Transactions with Blue Shield Plans;
4. Transactions with Commercial Carriers.

As noted earlier, physicians who decide to transact directly with their patients' insurance carriers are usually free to collect from patients charges over and above those paid by the insurance carriers. The exception to this basic principle is furnished by the Medicaid and Blue Shield PAR programs. A practice that accepts patients under the Medicaid program must accept the program's scheduled fees as "payment in full". Indeed, the Medicaid program does not reimburse patients at all and thus forces physicians to transact directly with the program itself. A practice may, however, decide not to accept Medicaid patients. A practice that participates under Blue Shield PAR program must accept the Blue Shield payment as full payment; however, it can charge non-Blue Shield patients any fee. A non-participating practice can charge the Blue Shield patients whatever it wishes and be paid directly by the

patient who will then be reimbursed by Blue Shield according to their allowable payments. In the state of Massachusetts, however, a Blue Shield patient cannot be reimbursed by Blue Shield if he sees a non-participating physician.

Whether or not the insurance carriers reimbuse physician or patient, and whether or not the physician accepts the carrier's payment as payment in full, every third-party payer must have some algorithm by which it is determined how much the carrier will pay Doctor X for providing service Y to patient Z. Two major approaches are used in the United States for this purpose.

A. The individual insurance claim is screened to ascertain whether Doctor X's charges are reasonable, that is, whether they are in keeping with the fees customarily charged in Doctor X's market area. This method is commonly referred to by the acronym UCR, whose letters stand for "Usual, Customary and Reasonable" fees.

B. Payment is made by the carrier according to a predetermined fee schedule (also commonly referred to as "benefit schedules").

The extent to which the major third parties use the two methods of physician reimbursement is summarized in Table 30.

3.3.3.1 Fee Schedules: Some Concepts

Schedules of fees for physicians' services have existed in the U.S. as far back as colonial times. During the 19th century a wide variety of fee schedules were published primarily by the medical profession, and most of the physicians' revenue came directly from the patients. Blue Shield historically used fee schedules to pay physicians. Health insurance companies arrived in this century and began to pay physicians on behalf of patients. Fee schedules were also the predominant method of payment by insurance companies prior to the inception of Medicare in 1965. In recent years, the UCR system has

TABLE 30

USE OF UCR AND FEE SCHEDULES COMPENSATION METHODS AND OTHER CHARACTERISTICS AMONG THE MAJOR THIRD-PARTY PAYERS FOR PHYSICIANS' SERVICES

THIRD PARTY PAYERS	USUAL METHOD OF PHYSICIAN PAYMENT	FINANCED BY:	TYPE OF BENEFICARIES	APPROXIMATE POTENTIAL BENEFICARIES (Millions)	PAYMENT MADE TO:
PUBLIC:					
Medicare	UCR	Federal Government	Persons 65 or older	23	51% physicians 49% patients
Medicaid	50% UCR 50% Fee Sched.	Federal and State Government	Medically needy poor, as defined by states	20	physicians
Workers' Compensation	Fee Schedules	Individual Business Firm	Victims of industrial accident or occupational disease	65	physicians
CHAMPUS	UCR	Federal Government	Dependent and Survivors of U.S. Armed Forces Personnel and non-active duty USAF personnel	6	patient
PRIVATE:					
Blue Cross/ Blue Shield Plans	UCR	Premium Income (non-profit)	General population	(surgical) 77 (home/off.) 36	patient
Commercial Insurance Co.	Fee schedules for medical/ surgical UCR for major med.	Premium Income (for profit)	General population	105	patient

SOURCE: Based on Showstack et al. "Fee-for-Service Physicians' Payment: Analysis of Current Methods and Their Development" *Inquiry*, Vol. XVI, No. 3, Fall 1979, pp. 230-246, Table 1.

displaced much of the earlier practice of fee schedules. Fee schedules are now only used by a few Blue Shield plans and about half of the federal/state Medicaid programs and by commercial insurers in their basic medical-surgical policies (Table 30). However, while fee schedules are used by the commercial insurers, major medical insurance is often also provided, so the net effect is quite similar to that of a UCR policy.

Fee schedules are lists of maximum allowable compensations for medical procedures performed by physicians; the actual payment is the billed charge or the fee schedule level, whichever is less. However, while fee schedules in most of the Western nations are established prospectively through negotiation between insurance carriers and medical societies, in the U.S. they are determined retrospectively through a survey of physicians' billed charges. Changes and additions of new services can subsequently be made on the basis of consensus of physician panels.

A fee schedule establishes a relatively fixed payment for a service. Such schedules are usually applied uniformly; reimbursement is administered without regard to a given physician's particular characteristics, such as speciality, location, skill, training and costs. Fee schedules published by and for the medical profession during the last century often represented the work of relatively small committees that decided what charges were usual or customary in the area; the fee schedules were determined without empirical studies of either distribution of fees, or the costs of providing the service.

In the past few decades, fee schedules have evolved from numerous simple schedules into a few widely used, complex documents which serve more as systems of medical terminology and coding than as fee schedules. As the practice of medicine became more complex, the need for a common procedural terminology system to facilitate communication between providers and third

party payers increased. As a result, there are now only a few popular terminological systems. Most of them do not resemble a fee schedule. (See section 3.3.5)

3.3.3.1.1 Relative Fee Structures, Aboslute Fee Levels and Conversion Factors

As already noted, fee schedules widely emerged in the United States in response to the growth of health insurance. The development of such schedules typically begins with relative value studies (RVSs) in which it is attempted to assign to particular service point values relative to some basic service. The actual dollar figure inherent in the fee schedule is then obtained by multiplying the relative value scale for a particular procedure by a common dollar conversion value. The following example illustrates the basic points discussed above.

Suppose an appendectomy was assigned a value of 10 units, while a routine office visit was assigned a relative value of 1.1 units; the value of the office visit would thus be about one-tenth the value of an appendectomy. The underlying assumption is that the relative values of the procedures remain constant among individual physicians or locations. An RVS is not in itself a fee schedule, but is easily converted into one. One need only multiply the numerical weights by some arbitrary dollar conversion factor. In the above example, if the conversion factor were $40, the appendectomny would be worth $400 and the office visit would be worth $44. Many third parties, both public and private, use RVSs to create maximum payment schedules. A fee schedule based on an RVS can be easily updated; one need only change the conversion factor. Furthermore, by applying different conversion factors to a given RVS, one can create different levels of reimbursement for different programs, insurance carriers, geographic areas and so forth. It is also possible to separate the periodic updating of the relative fee structure from the determination of absolute fees.

The most widely known RVS, which happens also to be the first state medical society relative value study, was published by the California Medical Association (CMA) in 1956; five subsequent editions of the "California Relative Value Study" (CRVS) were paublished in 1957, 1960, 1964, 1969 and 1974. According to the CMA, the CRVS was published in recognition of two needs: the need for a common procedural terminology for use by the growing number of third-party payers, and the need for a study of the relative values of medical services. CRVS was developed to facilitate systemtaic communication to third parties as to the services rendered.

For the first four editions of CRVS, CMA surveyed physicians concerning the fees they "generally charged" in order to determine relative values. For the 1969 edition, the CMA advisory subsommittee on RVS used computerized data from Blue Shield of California, instead of surveys of physicians. The CRVS comprises five specialty sections: Medicine, Anesthesia, Surgery, Radiology and Laboratory. Insurers who used the earlier CRVSs usually applied a single conversion factor to all of these sections (the conversion factor generally used for the 1964 edition was $5); the 1969 edition, however, forced insurers to use separate conversion factors for each specialty section.

Other state medical societies also followed California Medical Association in developing either their own RVSs or simply by adopting the CRVS. Because price fixing by medical societies is illegal under the United States antitrust statues, those medical societies who publish RVSs are always careful to offer them only as guidelines and never set the absolute dollar value of the conversion factors. Both individual physicians and private insurance carriers appear to use such RVSs in this spirit, deviating from them at their own discretion. Table 31 conveys an impression of the use of RVSs in American medical practices.

3.3.3.1.2 Limitations and Criticisms of Fee Schedule Methods

One particularly important aspect of fee schedule compensation methods in the U.S. is that the physician can bill the patient more than the maximum allowable charge paid by an insurance program (except Medicaid and Blue Shield PAR programs), unlike those Western nations in which fee schedules are meant to be strictly followed by set of price ceilings. When used to reimburse patients in the U.S., fee schedules do not limit the physicians charges; the fee schedules are, as described by medical societies, meant to be only "advisory" or "informational." For example, the fee schedules used by the commercial insurers to reimburse patients may list the amount which they will reimburse for each medical procedure. This amount may only be a portion of the physician's actual charge for that procedure.

Several governmental agencies have recently attacked fee schedules, arguing that they represent attempts to fix minimum prices and eliminate competition, in violation of antitrust laws. Indeed, as a result of recent actions by the Department of Justice and the Federal Trade Commission to prevent professional associations from promulgating RVSs, several organizations have recalled existing studies and abandoned their RVSs voluntarily.[24] Fee schedules and RVSs are not, in themselves, illegal; the ways in which they have been written and used are. The problem is that the schedules, rather than being negotiated by insurance carriers and medical societies, are written unilaterally by the professional society. Some RVSs -- California's in particular -- have been based at least in part upon surveys of actual physician's fees. Others have been developed through roundtable discussions among medical society committee members; the RVS of the American Society of Anesthesiologists is a notable example. Another method, used by

TABLE 31

PHYSICIAN NET INCOME, PERCENT WITH FEE-FOR-SERVICE PRACTICE, AND PERCENT USING RELATIVE VALUE SCALE BY SPECIALTY, 1976*

	PERCENT OF PHYSICIANS	
Specialty	Fee-for-Service Practice	Using Relative Value Scale
General and Family Practice	89.9%	41.6%
Internal Medicine	91.4	37.5
Surgery	96.0	63.6
Pediatrics	83.5	34.0
Obstetrics/Gynecology	94.8	37.0
Radiology	82.4	47.9
Psychiatry	87.2	19.3
Anesthesiology	86.9	90.5
Other	63.9	39.2
Total	88.9	46.3

SOURCE: Eleventh Periodic Survey of Physicians. November 1976. Center for Health Services Research and Development, American Medical Association.

organizations across the country, has been to adopt CRVS in toto or with only minor modifications -- without additional surveys in their areas. In any case, the fee schedules, critics argue, do not protect the public by setting maximum fees; rather they send signals to physicians concerning minimums.

Despite the criticisms and legal actions mentioned above, the use of fee schedules and RVSs remains central to the administration of most private health insurance as well as that of governmental programs (e.g., the Medicaid program in California). Illegalization of fee schedules, combined with the absence of a replacement mechanism, could produce chaos in the country.

3.3.3.2 Usual Customary and Reasonable Fees (UCR)

The overall objective of the UCR method is to tailor the carrier's payment for particular services to the level of fees prevailing in the physician's market area. Implicit in UCR programs were the following objectives: first, recognition of charge differences based upon individual provider characteristics, such as training, skills and experience. Second, elimination of income-dependent payment levels for patients under service benefit contracts. Third, allowance of different fees for generalists and specialists performing the same procedure.

UCR is least restrictive in determining the level of payment to providers, since physicians are largely responsible for the rate of increase in fees. Physicians prefer this method because it preserves their freedom to set fees at their own discretion and, as it turns out, tends to pay them at higher levels than do fixed fee schedules.[25] As a result of the inception of Medicare, the UCR method has become widely used. Furthermore, because the system is preferred by physicians, it is now widely favored also by unions in their negotiations with employers over health insurance benefits. Use of the UCR system, it is thought, tends to shield the insured from additional charges physicians might levy on patients if insurance carriers used fee schedules deemed inadequate by physicians.

Under the UCR method, the insurance typically pays as a reasonable fee the lesser of:

a. the physician's actual charge for the service in question;

b. the physician's usual charge for this service; or

c. the customary charge for that service among physicians in the physician's market area.

The acronym UCR derives from these features.

To illustrate the operation of this system, let us assume Doctor X bills patient Z $40 for service Y and seeks reimbursement from patient Z's insurance carrier.

To determine the level of payment it will make, the insurance carrier must first determine whether Doctor X's actual charge for the service ($40) is also his usual charge. This assessment is typically based on the mean or median fee Doctor X charged for service Y during some recent period, for example, the most recent twelve months. If this mean or median were found to be $40, the insurance carrier would tentatively decide to pay only $30 for service Y, and not the $40 actually billed by Doctor X. The actual charge of $40, however, will now become part of Doctor X's fee profile. It will serve to shift up his "usual" fee for future screenings. To determine whether Doctor X's usual charge of $30 is reasonable, the insurance carrier will next review the frequency distribution of the fees charge for service Y in the most recent period (say, 12 months) by all physicians in Doctor X's market area (an area that needs to be defined as well). The insurance carrier will typically base this assessment on a given percentile of this frequency distribution as a cutoff point beyond which fees are not considered reasonable. For example, the Medicare program uses the 75th percentile for this purpose. Most major commercial insurance carriers typically use the 90th percentile, and most Blue

Shield plans use between 75-90th percentile. Suppose now the cutoff point at the, say, 90th percentile were $27. Doctor X's usual charge would then be judged to be not "'reasonable." The insurance carrier would therefore pay Doctor X not his actual charge of $40, nor his usual fee of $30, but instead, $27, said to be the "customary" or "prevailing" fee in the area. If the cutoff point had been $35 rather than $27, Docotr X would, of course, be paid $30, his usual fee.

Insurance carriers differ somewht in the particulars of their UCR system. To simplify the processing of claims, many commercial insurers and some Blue Shields skip the first stage of the procedure, the comparison of the physician's actual charge with his or her own usual charge, and merely compare the physician's actual charge with the prevailing customary charge in the physician's market area. To determine the latter, the third-party payers use, say, the 90th percentile of the relevant frequency distribution of fees (a fee level such that only 10 percent of physicians' billings in the market area exceed that level).

It is immediately apparent that the UCR system imposes enormous data processing costs on the insurance carriers, each of whom must maintain its own physician profiles. In view of the sheer magnitude of thhis task, the UCR system became popular in the United States only in the 1960s and 1970s, with the advent of low-cost, high speed electronic computerls, and even then only after the public Medicare program embraced the concept in order to win the medical professions's support for that program. In the meantime, the UCR system has gained widespread acceptance in American health insurance and now dominates all other methods in terms of the associated dollar flows. The UCR system is now used by all of the major health insurance carriers, including the federal Medicare program and half of the federal-state Medicaid programs,

even under the so-called indemnity policies under which physicians bill only their patients and the latter seek reimbursement from their insurers.

3.3.3.2.1 Limitations and Criticisms of UCR Methods

The major difference between fee schedules and UCR methods of physician reimbursement is the extent of physician control over fees. While fee schedules are not generally established by physicians and do not necessarily reflect existing physician charge patterns, physicians paid by UCR retain virtually complete control over compensation rate since the rates are based on what physicians actually billed in the previous year(s). Thus, by increasing fees this year, their "profiles" may call for higher levels of reimbursement next year. The cumulative effects of the inherent inflationary pressure, the administrative costliness and the sustaining of historical differences in fees have led many third party payers and policymakers -- e.g., Health Care Financing Administration, HCFA, (which also happens to be the biggest third party with jurisdiction over the Medicare and Medicaid programs) -- to implement various controls over UCR in order to contain cost. These control measures include:

a. Putting limits on allowable yearly fee increases.

b. Lowering the cutoff limit for the definition of the area "customary" charge: Medicaid in California, for instance, set the "customary" level at the 60th percentile rather than the 75th.

c. Reducing the frequency with which charge-profiles are updated: one might update the charge profiles, say, every 18 months rather than every 12.

However, despite these restrictive measures, the inflationary pressure inherent in the basic concept of the widespread UCR remains. When Blue Shield first developed the idea of UCR, it was intended for only a small percentage of subscriber groups -- those willing to pay for relatively costly coverage reflecting doctors' regular fees. But when Medicare adopted UCR "across the board," market place controls implicit in the original concept were lost.

Under Medicare, UCR proved to be highly inflationary because physicians kept raising their charges to upgrade their profiles. Thus, Medicare unwittingly undermined the UCR concept. As reported by Showstack, et at. in 1979,[26] HCFA -- an organization created with the reform of the present reimbursement system as one of its major goals -- indicated that it would soon seek to change the present reimbursement from UCR back to the traditional fee schedule. Now virtually all those reform proposals explored by HCFA assume that reimbursement based on UCR will have to go. The alternatives to UCR which are pesently being considered and extensively analyzed are various forms of fee schedules. Fee schedules, according to HFCA's policy-analysis director Peter Fox, should not be regarded as a means of controlling costs, but rather "as a means of achieving the policy objectives that the UCR system defeats."[27]

3.3.4 How Fee Schedules and UCR Methods are Used by Third Party Payers

As indicated in this chapter's introduction, fee-for-service is by far the predominant method of physician reimbursement. It is estimated that between 65 and 71% of physicians are either paid by or bill their patients according to fee-for-service. These figures reflect the significant role played by fee-for-service in physician reimbursement.

Another index of the significance of the role of fee-for-service is the extent to which third party payers use this method of reimbursement. (Table 30)

3.3.4.1 Medicare

Medicare establishes uniform national rules for its reimbursement system, and contracts some 60 private insurance carriers to administer reimbursement, about half of whom are Blue Shield Plans and the other half commercial insurance carriers. Use of UCR system is mandatory under the federal legislation that established Medicare.

The Medicare program uses both of the steps in the UCR screening. First, the physician's actual charge is compared to his "customary" charge (a criterion private insurers call "usual"). For this purpose, the physician's "customary" charge is defined at the median charge he or she billed for the service during the previous year. Next, the lower of the physician's actual or customary charge is compared to the charge said to be "prevailing" in the physician's "reimbursement area," and payment is made at the lower of the actual or customary, or the prevailing fee level.

At the moment there are some 123 such reimbursement areas. Smaller states may constitute one such area. Larger states, on the other hand, are broken down into several reimbursement areas to account for regional differences in the socio-economic base of the population. The state of California, for example, has 28 such areas and the state of New York, 8.

Under the original Medicare legislation, the "prevailing" fee in a reimbursement area was defined at the 75th percentile of the frequency distribution of similar physicians in the reimbursement area. Since July 1, 1975, however, the Medicare program reimburses not at the actual 75th percentile, but at a level equal to that prevailing in 1975 and adjusted upward on economic index based on the nationwide average increase in per capita income and the national average of increases in physicians' practice expenses. This index was designed to eliminate one adverse incentive to inflate his charges in year 1 to increase both his own customary fee and the prevailing fee used as a free screen in year 2.

The imposition of the economic index on Medicare reimbursement has had one undesired effect: it had shifted additional financial burdens onto the patient.

Under the Medicare program the individual physician may elect either to take "assignment" or to deal only with the patient. A physician who takes "assignment" agrees to accept as full payment 80 percent of the fee paid by Medicare and another 20 percent of that same fee paid by the patient. The physician, however, is free to refuse assignment (on a patient by patient basis), in which case he charges the patient any fee he wishes. Suppose, for example, physician A refuses to take "assignment" from patient B and bills the latter $90 for a particular service. Patient B now submits the bill to the insurance carrier who acts as the Medicare intermediary in the area. The carrier will screen physician A's bill in accordance with Medicare's UCR rules. If physician A's "customary" charge for the service is found to be $80 and the "prevailing" charge only $50, patient B will receive a reimbursement of only $40 (80% of the "prevailing" fee, the latter being the 1975 prevailing fee augmented by the economic index described above). Currently, about 51% of Medicare claims are accepted and 49% refused by physicians.

It should now be apparent why the economic fee index may inadvertently shift added financial burdens onto patients. If, as a result of the index, the fee reimbursed by Medicare departs too much from the truly prevailing market-determined rate in an area, fewer physicians will accept "assignment" and correspondingly more patients will face large and unpredictable copayments.

Table 32 presents data on the "prevailing" charges emerging in 1981, for 100 high volume physician-performed procedures from the UCR system operated by Medicare for the State of New Jersey. In that state, the Prudential Insurance Company acts as Medicare intermediary. For purposes of reimbursement, the state is divided into three "reimbursement areas." The "previaling"charges are calculated separately for general practitioners and for medical

specialists. An asterisk (*) behind a charge indicates that the charge is not the actual fee at the 75th percentile of the frequency distributed of fees in that area, but a level constrained by Medicare's economic index. In other words, the charge listed in the table is lower than the actual current fee at the 75th percentile.

Medicare prevailing charges for several localities around the country for thirteen selected common producures are presented in Table 33. As Table 33 suggests, the price variations across the localities tend to be fairly large. Table 34 highlights the geographic variation in fees more clearly. The cell entry for each procedure is arrived at by dividing the charge in that locality by the charge in Rochester, N.Y. Thus the Medicare "prevailing" charge for an appendectomy in New York City, New York is 2.28 times that in Rochester, New York; and the Medicare prevailing charge for a hemmorrhoidectomy in Los Angeles, California is 2.49 times that in Rochester, New York, and so on. The last row shows the averages of each column: on the average, the Medicare prevailing charges for the selected procedures in Princeton, New Jersey are 1.33 times that in Rochester, New York. In Table 35, the charges for all procedures are normalized on the charge for an appendectomy within each locality to arrive at the "relative value scales" among the selected procedures.[28] For example, in Princeton, a partial colectomy is valued at 2.19 times of an appendectomy; in New York City, the proportion is 2.27 times. The last column shows the averages of each row: on the average, the fee for a partial colectomy for the selected localities is 2.35 times that for an appendectomy.

3.3.4.2 Medicaid

Medicaid has no uniform national reimbursement philosophy; about half of the state Medicaid programs pay for physicians' services on the basis of UCR,

TABLE 32

"PREVAILING" FEES UNDER MEDICARE IN THE STATE OF NEW JERSEY 1980

1980 PREVAILING CHARGE SUMMARY DATA PRUDENTIAL INSURANCE COMPANY NEW JERSEY

PROCEDURE DESCRIPTION	LOCALITY DESIGNATION FOR GENERAL PRACTICE 01	02	03	LOCALITY DESIGNATION FOR SPECIALIST 01	02	03	
1 INITIAL BRIEF OFFICE VISIT				15.30*	15.20*	18.30*	1
2 INITIAL LIMITED OFFICE VISIT	23.00*	25.00	20.00	38.20*	30.70*	30.70*	2
3 INIT INTERMED OFFICE VISIT				38.30*	30.70*	30.70*	3
4 INIT COMP OFFICE VISIT	30.70*	30.70*	30.70*	46.00*	45.00*	38.30*	4
5 MINIMAL F/U OFFICE VISIT	13.30*	12.30*	10.70*	15.30*	15.20*	15.30*	5
6 BRIEF F/U OFFICE VISIT	12.30*	12.30*	10.70*	15.30*	15.30*	15.30*	6
7 LIMITED F/U OFFICE VISIT	12.30*	12.30*	10.70*	15.30*	15.30*	18.30*	7
8 INTERMED F/U OFFICE VISIT	25.00	21.00	20.00	40.00	29.30*	25.00	8
9 EXTENDED F/U OFFICE VISIT	25.00	21.00	30.00	40.00	38.30*	25.00	9
10 COMPLETE F/U OFFICE VISIT	25.00	21.00	20.00	40.00	38.20*	25.00	10
11 BRIEF F/U HOME VISIT	18.40*	18.30*	18.30*	15.40*	15.30*	15.30*	11
12 LIMITED F/U HOME VISIT				15.40*	15.30*	15.30*	12
13 INTERMEDIATE F/U HOME VISIT	18.40*	18.30*	18.30*	15.40*	15.30*	15.30*	13
14 EXTENDED CARE FACILITY VISIT				23.00*	15.00	15.30	14
15 BRIEF F/U NURSING HOME VISIT	12.30*	12.30*	10.70*	15.30*	13.70*	15.30*	15
16 INITIAL BRIEF HOSPITAL VISIT	38.20*	38.30*	38.30*	53.70*	53.70*	46.00*	16
17 INIT INTERMED HOSPITAL VISIT				53.70*	53.70*	46.00*	17
18 INITIAL COMP HOSPITAL VISIT	37.50*	38.70*	38.90*	53.70*	53.70*	46.00*	18
19 BRIEF F/U HOSPITAL VISIT	15.00	15.00	15.00	19.40*	15.30*	15.30*	19
20 LIMITED F/U HOSPITAL VISIT	15.00	15.00	15.00	19.40*	15.30*	15.30*	20
21 INTERMED F/U HOSPITAL VISIT	18.00	15.00	18.00	19.40*	15.30*	18.30*	21
22 EXTENDED F/U HOSPITAL VISIT				18.40*	15.30*	15.30*	22
23 BRIEF EMERGENCY ROOM VISIT				23.00*	22.00*	22.30*	23
24 LIMITED EMERGENCY ROOM VISIT				23.00*	23.00*	23.00*	24
25 INTERMED EMERGENCY ROOM VISIT				23.00*	33.00*	23.00*	25
26 LIMITED CONSULTATION	38.30*	38.10*	34.50*	48.00*	43.80*	43.30*	26
27 EXTENSIVE CONSULTATION				86.00*	87.60*	84.60*	27
28 COMPREHENSIVE CONSULTATION				128.00*	115.80*	112.80*	28
29 PSYCHOTHERAPY 1 HOUR				50.00	46.00*	50.00	29
30 PSYCHOTHERAPY-HALF HOUR				35.00	20.00	30.70*	30
31 CHIROPRACTIC OFFICE VISIT	8.00	8.00	8.00	12.00	12.00	12.00	31
32 INITIAL PHYSIOTHERAPY				15.30*	15.00	13.30	32
33 F/U PODIATRIC OFFICE VISIT				15.00	15.00	13.30*	33
34 ELECTROCARDIOGRAM (EKG)	25.00	25.00	25.00	25.00	25.00	25.00	34
35 EKG-INTERPRET. REPORT ONLY	10.00	20.00	20.00	10.00	33.00*	7.70*	35
36 SPIROMETRY				23.80*	35.00	25.00	36
37 ELECTROENCEPHALOGRAM (EEG)				52.70*	60.00	81.30*	37
38 CHEMOTHERAPY				29.10*	19.70*	15.00*	38
39 COLLECTION OF SPECIMENS				3.00	3.00	3.00	39
40 DEBRIDEMENT OF NAILS				39.90	39.90	39.90	40
41 SKIN BIOPSY				86.00	75.00	53.70*	41
42 CHEMOCAUTERY				52.30	52.30	52.20	42
43 RADICAL MASTECTOMY				919.80*	919.80*	781.80*	43
44 OPEN REDUCTION OF FRACTURE				1073.10	896.50*	766.50	44
45 ARTHROCENTESIS-MAJOR JOINT	52.20	53.20	53.20	52.30	52.20	52.20	45
46 ARTHROTOMY				39.90	39.90	39.90	46
47 ARTHROPLASTY-REPAIR OF HIP				1500.30	1500.00	1500.00	47
48 NEEDLE PUNCTURE OF BURSA				38.90	39.80	39.90	48
49 BRONCHOSCOPY				220.00*	269.30*	166.60*	49
50 THORACENTESIS				52.70*	53.70*	53.70*	50
51 CATHETERIZATION OF HEART				496.00*	459.90*	488.80*	51
52 INSERTION OF PACEMAKER				750.00	750.00	750.00	52
53 PARTIAL COLECTOMY				1149.80*	1073.10*	918.80*	53
54 APPENDECTOMY	587.80	488.20	488.20	482.80*	488.60	421.80*	54
55 SIGMOIDOSCOPY				52.30	53.30	52.20	55
56 HEMORRHOIDECTOMY				421.60*	380.30	329.60*	56
57 CHOLECYSTECTOMY				766.50*	720.50*	513.20*	57
58 REPAIR HERNIA				475.20*	450.90*	383.30*	58
59 DIAGNOSTIC CYSTOURETHROSCOPY	75.00	53.70	53.70	56.00*	75.70*	61.30*	59
60 DILATION OF URETHRA				23.00*	35.00	15.00	60
61 PROSTATECTOMY				1119.30*	818.80*	804.80*	61
62 ELECTROSECTION-PROSTATE (TUR)	1048.00*	1019.00*	920.00*	919.80*	980.00	765.50*	62
63 HYSTERECTOMY				850.00	766.50*	728.20*	63
64 INITIAL COMPLETE EYE EXAM				25.00	26.80*	24.00	64
65 COMPREHENSIVE EYE EXAM				57.00*	56.50*	62.00*	65
66 EYE EXAM WITH TONOMETRY				57.00*	56.50*	62.00*	66
67 EXTRACTION OF LENS	843.20*	843.30*	843.30	815.80*	766.50*	766.50*	67
68 CHEST X-RAY.SINGLE VIEW	23.00*	23.00*	20.00	27.50	25.00	25.00	68
69 CHEST X-RAY.TWO VIEWS	28.00	33.00*	35.00*	30.00	38.00	30.00	69
70 X-RAY SPINE				83.70*	40.00	40.00	70
71 X-RAY HIP				35.00	32.00	30.00	71
72 X-RAY UPPER GI TRACT	70.00	68.00	81.20	75.00	57.00	51.30*	72
73 X-RAY COLON				57.50*	58.00	66.00	73
74 RADIATION THERAPY-LOW VOLT	44.40*	37.80*	43.60*	21.20*	35.30*	25.20*	74
75 RADIATION THERAPY-SUPER VOLT	44.40*	37.80*	43.60*	21.30*	25.20*	25.20*	75
76 RADIATION THERAPY-MEGAVOLT				21.30*	25.30*	25.20*	76
77 CAT SCAN - HEAD				157.50	107.50	157.50	77
78 CAT SCAN-HEAD. INTERPRET ONLY				157.50 P	157.50 P	157.50 P	78
79 THREE CHEMISTRY TESTS				10.00	15.00	15.00	79
80 TWELVE CHEMISTRY TESTS				18.00	15.00	19.00	80
81 CULTURE-OTHER THAN BLOOD				18.00	10.00	18.00	81
82 HEMOGLOBIN				2.00L	2.00L	2.00L	82
83 AUTOMATED BLOOD COUNT				5.90L	5.90L	5.80L	83
84 WHITE CELL COUNT				2.00L	3.00L	2.00L	84
85 COMPLETE BLOOD COUNT (CBC)				5.90L	5.90L	5.80L	85
86 CHOLESTEROL TEST				5.00L	5.00L	5.00	86
87 FLOCCULATION TEST				4.75	5.50	5.00	87
88 HEMATOCRIT				3.00	2.00	2.00	88
89 PLATELET COUNT (REES-ECKER)				5.00	5.00	5.00	89
90 POTASSIUM TEST				5.50	9.00	5.00	90
91 PROTHROMBIN				5.00L	5.00L	5.00L	91
92 SEDIMENTATION RATE				4.00L	4.00L	4.00L	92
93 BLOOD SUGAR				4.00L	4.00L	4.00L	93
94 BUN-UREA.NITROGEN				3.50L	3.80L	3.50L	94
95 URIC ACID				4.20L	4.20L	4.20L	95
96 FECES-OCCULT BLOOD				5.00	9.00	5.00	96
97 PAP TEST				9.00L	8.00L	9.00L	97
98 ROUTINE URINALYSES				2.00L	3.00L	2.00L	98
99 CHEMICAL URINALYSIS				3.00L	3.00L	3.00L	99
100 PATHOLOGY-THREE SPECIMENS				76.00	28.00	30.00	100
101 HOSPITAL BED - RENTAL						40.00L	101
102 WALKER - RENTAL						12.00	102
103 WHEELCHAIR - RENTAL						20.00L	103
104 HOSPITAL BED - PURCHASE						370.00	104
105 WALKER - PURCHASE						21.00	105
106 WHEELCHAIR - PURCHASE						165.00	106

SOURCE: U.S. Dept. of Health, Education and Welfare, Health Care Financing Agency, Medicare Directory of Prevailing Charges 1980, pp. 167-68.

* Denotes "prevailing" charges that have been adjusted (i.e. constrained) by the Medicare Economic Index.

P Denotes "professional component only"

L Denotes lowest charge level applying to

TABLE 33

Medicare Prevailing Charges of Selected Common Procedures, 1981

rocedure	Locality								
	Princeton NJ	Los Angeles CA	New York NY	Rochester NY	Boston MA	Louisville KY	Cleveland OH	Miami FL	Mean Charge
1. Initial Limited	$ 33.20	$ 35.00	$ N.A.	$ 15.00	$ N.A.	$ 37.50	$ 16.60	$ 40.00	$ 29.55
2. Initial Comprehensive Office Visit	49.70	82.90*	58.00*	45.00	41.50	58.00*	58.00	49.00*	55.26
3. Electrocardiogram (EKG)	28.00	33.16*	35.00	29.50*	16.00	20.00	24.90*	30.00	27.07
4. Partial Colectomy	1,160.60	2,000.00	2,072.50*	829.00	994.80*	829.00*	911.90*	1,120.80*	1,239.82
5. Appendectomy	530.60	596.88*	911.90*	400.00	414.50*	414.50*	375.00	541.60*	523.87
6. Tonsillectomy, Adenoidectomy (child)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7. Hemmorrhoidectomy	331.60	497.40*	746.10*	200.00	331.60*	400.00	375.00	497.40*	422.39
8. Hernia, Inguinal	497.40*	829.00*	900.00	368.60*	414.50*	414.50*	414.50*	497.40*	541.99
9. Hysterectomy	829.00*	1,243.50*	1,409.30*	727.50*	800.00	746.10*	746.10*	980.70*	935.28
10. Vaginal Delivery	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11. Extraction of Lens	829.00*	1,409.30*	1,155.60*	746.10*	829.00*	663.20*	800.00	911.80*	918.00
12. Chest X-ray, Single View	25.00	28.19*	33.20*	20.70*	11.60*	20.00*	15.00*	25.00	22.34
13. Insertion of Pacemaker	1,077.70	1,243.50*	1,243.50*	943.10*	994.80*	829.00*	829.00*	1,500.00	1,113.66

*The charge is not the actual fee at the 75th percentile of the frequency distribution in the area, but a level constrained by Medicare's economic index. That is, the charge is lower than the actual current fee at the 75th percentile.

Source: Medicare Directory of Prevailing Charges 1981. Health Care Financing Administration.

TABLE 34

Geographic Variation in Medicare Prevailing Charges
of Selected Common Procedures, 1981.

ocedure	Locality							
	Princeton NJ	Los Angeles CA	New York NY	Rochester NY	Boston MA	Louisville KY	Cleveland OH	Miami FL
Initial Limited Office Visit	2.21	2.33	N.A.	1.00	N.A.	2.50	1.11	2.67
Initial Comprehensive Office Visit	1.10	1.84	1.29	1.00	0.92	1.29	1.29	1.09
Electrocardiogram (EKG)	.95	1.12	1.19	1.00	0.54	.68	.84	1.02
Partial Colectomy	1.40	2.41	2.50	1.00	1.20	1.00	1.10	1.35
Appendectomy	1.33	1.49	2.28	1.00	1.04	1.03	.94	1.35
Tonsillectomy, Adenoidectomy (child)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Hemmorrhoidectomy	1.66	2.49	3.73	1.00	1.66	2.00	1.88	2.49
Hernia, Inguinal	1.35	2.25	2.44	1.00	1.12	1.12	1.12	1.35
Hysterectomy	1.14	1.71	1.94	1.00	1.10	1.03	1.03	1.35
. Vaginal Delivery	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
. Extraction of Lens	1.11	1.89	1.55	1.00	1.11	.89	1.07	1.22
. Chest X-ray, Single View	1.20	1.36	1.60	1.00	0.56	.97	0.72	1.21
. Insertion of Pacemaker	1.14	1.58	1.32	1.00	1.05	.88	.88	1.59
erage	1.33	1.86	1.98	1.00	1.03	1.34	1.09	1.52

l charges are normalized on the charges for Rochester, NY.

TABLE 35

Relative Value Scales of Medicare Prevailing Charges
of selected Common Procedures, 1981

ocedure	Locality								
	Princeton NJ	Los Angeles CA	New York NY	Rochester NY	Boston MA	Louisville KY	Cleveland OH	Miami FL	Average
Initial Limited Office Visit	.06	.06	N.A.	.04	N.A.	.09	.04	.07	.06
Initial Comprehensive Office Visit	.09	.14	.06	.11	.10	.14	.15	.09	.11
Electrocardiogram (EKG)	.05	.06	.04	.07	.04	.05	.07	.06	.06
Partial Colectomy	2.19	3.35	2.27	2.07	2.40	2.00	2.43	2.07	2.35
Appendectomy	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Tonsillectomy, Adenoidectomy (child)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Hemmorrhoidectomy	.62	.83	.82	.50	.80	.97	1.00	.92	.81
Hernia, Inguinal	.94	1.39	.99	.92	1.00	1.00	1.11	.92	1.03
Hysterectomy	1.56	2.08	1.55	1.82	1.93	1.80	1.99	1.81	1.82
. Vaginal Delivery	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
. Extraction of Lens	1.56	2.36	1.27	1.87	2.00	1.60	2.13	1.68	1.81
. Chest X-ray, Single View	.05	.05	.04	.05	.03	.05	.04	.05	.05
. Insertion of Pacemaker	2.03	2.50	1.36	2.36	2.40	2.00	2.21	2.77	2.24

1 charges are normalized on the charge for an appendectomy.

and half pay on the basis of fee schedules. There are fifty state-level and four territorial Medicaid programs, and each Medicaid program may exercise a great deal of discretion. The only limits on the programs regarding reinbursement rates are that they set their rates high enough to attract "sufficient" numbers of physicians to participate, and that they reimburse at rates not exceeding those of Medicare. Unlike Medicare, physicians under Medicaid have no option of refusing assignment; they may refuse to treat Medicaid patients, but once they agree to such treatments, acceptance of Medicaid rates as payment in full is mandatory. Physicians are paid directly by Medicaid, and patients are not reimbursed by Medicaid for payments made to physicians.

As already noted, roughly half of the federal/state Medicaid programs use fee schedules. New Jersey is one such state. In that state, again, the Prudential Insurance Company acts as Medicaid intermediary. The New Jersey Medicaid fee schedule applies to the entire state, and differential in fee is allowed between medical specialist and non-specialist. There are approximately 3,500 procedures (surgical medical radiological and lab) included in the schedule. Table 36 presents scheduled fees for selected procedures (the same 13 procedures as those in Table 33) under the New Jersey Medicaid program. These fees can be directly compared to the New Jersey "prevailing" fees under the Medicare program (Table 33 above), as both tables reflect data for 1981. (New Jersey Medicaid fees have remained unchanged from 1978 to the time of the present writing.) The large differences between the Medicare and Medicaid fees are readily noticeable. The fact is that a physician accepting a Medicaid patient receives for a given procedure far less than he would for the same services rendered a Medicare patient on "assignment." For this reason, many American physicians choose not to accept

Medicaid patients at all; some while keeping the existing Medicaid patients, refuse to accept new Medicaid patients. Table 37 summarizes the New Jersey Medicaid charges normalized on the charge for an appendectomy. While the relative values thus obtained looked remarkably similar between the Medicaid specialist and non-specialist fees, they are rather different when compared with the relative values of the Medicare charges (Table 35).

3.3.4.3 Blue Shield

Presently, the overwhelming majority of Blue Shield plans of physician reimbursement are based on UCR mechanisms, under which the Blue Shield participating physicians agreed to accept the plans' allowed payment as payment in full. Only very few Blue Shield Plans, mostly in the Northeast, still use fee schedules to pay physicians; some of these plans tie the service benefits with income requirment (e.g., Rochester, New Jersey), the others

TABLE 36

Medicaid Allowable Fees of Selected Common Procedures,
Under the State of New Jersey Medicaid Program, 1981

Procedure	Specialist Fee	Non-Specialist Fee
1. Initial Limited Office Visit	$ 22.00	$ 17.00
2. Initial Comprehensive Office Visit	35.00	30.00
3. Electrocardiogram (EKG)	16.00	N.A.
4. Partial Colectomy	362.00	315.00
5. Appendectomy	211.00	184.00
6. Tonsillectomy, Adenoidectomy (child)	79.00	68.00
7. Hemmorrhoidectomy	151.00	131.00
8. Hernia, Inguinal	182.00	158.00
9. Hysterectomy	332.00	289.00
10. Vaginal Delivery	396.00	354.00
11. Extraction of Lens	393.00	341.00
12. Chest X-ray, single view	13.60	13.60
13. Insertion of Pacemaker	328.00	N.A.

Source: State of New Jersey Department of Human Services. Medicaid Fee Schedule, 1981 Edition.

<INSERT TABLE 37 HERE>

TABLE 37

Relative Value Scale of New Jersey Medicaid Allowable
Fees of Selected Common Procedures, 1981

Procedure	Specialist Fee	Non-Specialist Fee	Average
1. Initial Limited Office Visit	.10	.09	.10
2. Initial Comprehensive Office Visit	.17	.16	.17
3. Electrocardiogram (EKG)	.08	N.A.	---
4. Partial Colectomy	1.72	1.71	1.72
5. Appendectomy	1.00	1.00	1.00
6. Tonsillectomy, Adenoidectomy (child)	.37	.37	.37
7. Hemmorrhoidectomy	.72	.71	.72
8. Hernia, Inguinal	.86	.86	.86
9. Hysterectomy	1.58	1.57	1.58
10. Vaginal Delivery	1.88	1.92	1.90
11. Extraction of Lens	1.86	1.85	1.86
12. Chest X-ray, Single View	.06	.07	0.07
13. Insertion of Pacemaker	1.55	N.A.	---

All charges are normalized on the charges for an appendectomy.

TABLE 38

Maximum Allowable Fees and Relative Values of Selected Common Procedures Under the Californian Blue Shield Program (UCR), 1981

Procedure	North		South		Average
1. Initial Limited Office Visit	$ 47.00	(.06)	$ 45.00	(.05)	(.06)
2. Initial Comprehensive Office Visit	103.00	(.14)	105.00	(.13)	(.14)
3. Electrocardiogram (EKG)	41.00	(.06)	43.00	(.05)	(.06)
4. Partial Colectomy	1,510.00	(2.05)	1,810.00	(2.20)	(2.13)
5. Appendectomy	735.00	(1.00)	822.00	(1.00)	(1.00)
6. Tonsillectomy, Adenoidectomy (child)	312.00	(.42)	410.00	(.50)	(.46)
7. Hemmorrhoidectomy	560.00	(.76)	660.00	(.80)	(.78)
8. Hernia, Inguinal	685.00	(1.07)	810.00	(.99)	(1.03)
9. Hysterectomy	1,260.00	(1.71)	1,510.00	(1.84)	(1.78)
10. Vaginal Delivery	975.00	(1.33)	1,025.00	(1.25)	(1.29)
11. Extraction of Lens	1,360.00	(1.85)	1,510.00	(1.84)	(1.85)
12. Chest X-ray, Single View	38.00	(.05)	39.00	(.05)	(.05)
13. Insertion of Pacemaker	1,238.00	(1.68)	1,510.00	(1.84)	(1.76)

Source: California Blue Shield Maximum Allowable Fees. The numbers in the parentheses are charges normalized on the charge for an appendectomy.

organizations, Blue Cross North and Blue Cross South, as well as with the commercial carriers for the market of the insurance of physicians' expenses. Seventy percent of the California physicians participated in Blue Shield; 5% of the total California population are covered by Blue Shield, compared with 7% covered by Blue Cross North and 7% by Blue Cross South. Physicians participating in California Blue Shield have to accepts Plan's payment as payment in full; no balance billing is allowed. Fees are updated once a year based on UCR mechinism; the terminology system used is the California Relative Value Scales. Table 39 summarizes the relative values of California Blue Shield fees normalized on the charges for an appendectomy.

On the other hand, fee schedules used by the few Blue Shield Plans, mostly in the Northeast, are regularly published documents, available to each Blue Shield participating physician. Of the four Blue Shield Plans, Connecticut, Rochester, Massachusetts and New Jersey, discussed below, Massachusetts is the only state which does not publish its fee schedule. With the exception of New Jersey which offers both fixed fee schedule and UCR policies, all the other three states use the fee schedule method exclusively to pay physicians. Rochester and New Jersey plans tie the service benefit to income requirements; Connecticut and Massachusetts offer service benefit to all subscribers regardless of income. Massachusetts Plan forbids payments to non-participating physicians who treat Blue Shield patients, the other three plans allow Blue Shield assignment, i.e., plans will reimburse patients according to fee schedule. The patient, in turn, will be responsible for nonparticipating physician's entire bill. Fee schedules are developed by the Blue Shield physician advisory committee with consideration for overall appropriateness among fees; Massachusetts Plan, however, bases its fee schedule essentially on some capped version of UCR mechanism. All four plans

TABLE 39

Relative Value Scale of California Blue Shield

Maximum Allowable Fees (UCR) of Selected Common Procedures, 1981

Procedure	North	South
1. Initial Limited Office Visit	.06	.05
2. Initial Comprehensive Office Visit	.14	.13
3. Electrocardiogram (EKG)	.05	.05
4. Partial Colectomy	2.05	2.20
5. Appendectomy	1.00	1.00
6. Tonsillectomy, Adenoidectomy (child)	.42	.50
7. Hemmorrhoidectomy	.76	.80
8. Hernia, Inguinal	.93	.99
9. Hysterectomy	1.71	1.84
10. Vaginal Delivery	1.33	1.25
11. Extraction of Lens	1.85	1.84
12. Chest X-ray, Single View	.05	.05
13. Insertion of Pacemaker	1.68	1.84

All charges are normalized on the charges for an Appendectomy.

command considerable physician participation: from 70% to 99% of physicians participated in the Blue Plans. Table 40 summarizes the characteristics of the four Blue Shield Fee Schedule Plans. Table 41 displays the Plans' maximum allowable charges for the set of 13 procedures. Table 42 illustrates variation in fees across the Plans' fee schedules where fees are divided by the corresponding fees of the Connecticut's Plan. New Jersey fees are excluded from this comparison because the New Jersey Plans are not meant to be full-payment policies and hence not comparable to the other three plans. (See Appendix A) Rochester's fees lead the other two plans' in six cases, Massachusett's fees lead in three cases and Connecticut's in two cases. Overall, however, the fees in the three fee schedules are quite similar to one another. In Table 43 all fees have been normalized on the fee for an appendectomy to arrive at the relative values among the procedures. A remarkable parallel is found among the relative value scales for Rochester, Connecticut and Massachusetts. The three New Jersey relative value scales look different from the other three Blue Shield Plans; and the reason is likely to be that the new Jersey fees, once established remain fixed and never updated. The three New Jersey relative value scales are identical to each other because the fees across the three programs are designed to be proportional.

3.3.4.4 Commercial Insurance Carriers

Commercial insurance companies, unlike Blue Shields, do not have contractural agreement with physicians; they rely almost exclusively on UCR method to pay physicians. While most of the commercial carriers, especially the large ones, pay for physicians' expenses at the 90th percentile fee level or even higher, it is not uncommon for smaller companies to pay only at 50th percentile or lower. A 1977 survey study conducted by Sloan _et al_. on the

TABLE 40

Summary of Blue Shield Plans Using Fee Schedule Method to Pay Physicians

BLUE SHIELD PLAN	PHYSICIAN PAYMENT METHOD	DETERMINATION OF FEES	FREQUENCY OF UPDATE	TERMINOLOGY SYSTEM	% POPULATION COVERED	% PHYS. PARTIC.
Rochester	Full-payment fee schedule based on relative values & conversion factors. Income ceiling for service benefit as of 1/1/82 is $29,500. Beyond this ceiling, par. physicians can balance bill.	Relative values are decided by the physician advisory committee. Conversion factors are based on discounted physician fee components of the CPI. The Committee decides on an overall total sum of money for reimbursement. The physician in each category (surgery, radiology, etc) then decide on the allocation of monies among procedures; as well as whether to increase the fees on a procedure-by-procedure basis. Extra money is allocated for new procedures with consideration for the share allocation on the existing procedures.	Piece-meal RVS update every 2-3 years. Conversion factors update every year.	Used CRVS up to '58. By now the RVS have evolved into a completely independent one from the CRVS.	85-90%	90%
Connecticut	Full-payment fee schedule with no income limit. Service benefit. Non-par. physicians paid by patients who are reimbursed by Blue Shield.	Fee profiles are studied to determine if and how much to increase. Fees are set high enough to ensure adequate physician participation, a ceiling of 16% increase on any single procedure. No overall percentile is used to determine allowable charges. Rather, choose a percentile for each procedure such that the resultant aggregate increase in cost is < that if the HCFA's physician fee inflation index was used.	Annually		33 1/3%	70%
Massachusetts	Full-payment, bastardized, unpublished (hidden) fee schedule. Service benefit. Non-par physicians cannot get paid.	Using the UCR concept, but the increase in "customary" is limited to be < the Boston area urban wage earner (minus medical component) component of the CPI. For example, percentages increases on the customary level from 1978 to 1982 are: 4%, 0, 9%, 8.5%, 8%.	Annually	CRVS	60%	99%
New Jersey	Policies not intended for full-payment, have to be supplemented by major medical. Income requirement for three alternative fee schedule policies to qualify for service benefit.	Truly "fixed" fee schedules. the three schedules were developed in 1960, 1973 and respectively, had remained unchanged since. Few subscribers qualify for service benefit. Because of the inadequate payment most have to buy additional insurance. Collectively subscribers for fixed fee schedule policies account for 80% among all subscribers, the remaining 20% hold UCR policies also offered by Blue Shield.	Never update.		50%	75%

TABLE 41

Maximum Allowable Physician Charges for Selected Procedures
Under Four Blue Shield Plans Using Fee Schedule Methods, 1981

Procedure	Rochester	Connecticut	Massachusetts	New Jersey		
				Series 500	Series 750	Series 14/2
1. Initial Limited Office Visit	---	---	$ 19.93			
2. Initial Comprehensive Office Visit	---	---	46.49			
3. Electrocardiogram (EKG)	$ 36.60	$ 25.00	27.90	$ 20.00	$ 20.00	$ 20.00
4. Partial Colectomy	1,179.00	1,000.00	996.27	315.00	450.00	630.00
5. Appendectomy	524.00	496.00	431.72	184.00	263.00	368.00
6. Tonsillectomy, Adenoidectomy (child)	209.60	236.00	232.46	68.00	98.00	137.00
7. Hemmorrhoidectomy	393.00	320.00	398.51	116.00	165.00	231.00
8. Hernia, Inguinal	524.00	450.00	411.79	158.00	225.00	315.00
9. Hysterectomy	786.00	779.00	779.01	289.00	413.00	578.00
10. Vaginal Delivery	497.80	472.00	597.76	210.00	300.00	420.00
11. Extraction of Lens	943.20	1,000.00	876.72	341.00	488.00	683.00
12. Chest X-ray, Single View	30.00	23.60	26.57	15.00	15.00	15.00
13. Insertion of Pacemaker	1,048.00	847.00	996.27	341.00	488.00	683.00

TABLE 42

Variation in Allowable Physician Charges for Selected Procedures Among Blue Shield Plans Using Fee Schedule Method, 1981

Procedure	Rochester	Connecticut	Massachusetts
1. Initial Limited Office Visit	---	---	---
2. Initial Comprehensive Office Visit	---	---	---
3. Electrocardiogram (EKG)	1.46	1.00	1.12
4. Partial Colectomy	1.18	1.00	1.00
5. Appendectomy	1.06	1.00	.87
6. Tonsillectomy, Adenoidectomy (child)	.89	1.00	.99
7. Hemmorrhoidectomy	1.23	1.00	1.25
8. Hernia, Inguinal	1.16	1.00	.92
9. Hysterectomy	1.01	1.00	1.02
10. Vaginal Delivery	1.05	1.00	1.27
11. Extraction of Lens	.94	1.00	.88
12. Chest X-ray, Single View	1.27	1.00	1.13
13. Insertion of Pacemaker	1.24	1.00	1.18
Average	1.14	1.00	1.06

All charges are normalized on the charges for Connecticut.

TABLE 43

Relative Value Scales of Maximum Allowable Physician Charges for Selected Procedures

Under Blue Shield Plans Using Fee Schedule Method, 1981

	Rochester	Connecticut	Massachusetts	New Jersey			Average
				Series 500	Series 750	Series 14/20	
1. Initial Limited Office Visit	---	---	.05	---	---	---	---
2. Initial Comprehensive Office Visit	---	---	.11	---	---	---	---
3. Electrocardiogram (EKG)	.07	.05	.06	.11	.08	.05	.07
4. Partial Colectomy	2.25	2.02	2.31	1.71	1.71	1.71	1.95
5. Appendectomy	1.00	1.00	1.00	1.00	1.00	1.00	1.00
6. Tonsillectomy, Adenoidectomy (child)	.40	.48	.54	.37	.37	.37	.42
7. Hemmorrhoidectomy	.75	.65	.92	.63	.63	.63	.70
8. Hernia, Inguinal	1.00	.91	.95	.86	.86	.86	.91
9. Hysterectomy	1.50	1.57	1.85	1.57	1.57	1.57	1.61
10. Vaginal Delivery	.95	.95	1.38	1.14	1.14	1.14	1.11
11. Extraction of Lens	1.80	2.02	2.03	1.85	1.86	1.86	1.93
12. Chest X-ray, Single View	.06	.05	.06	.08	.06	.04	.06
13. Insertion of Pacemaker	2.00	1.70	2.30	1.85	1.85	1.85	1.96

All charges are normalized on the charge for an Appendectomy.

reimbursement rates physicians received from Medicare, Medicaid, Blue Shield and commercially insured of self-paying patients produced the following results.[29]

1. Medicare and Blue Shield fees are quite similar;

2. Medicare and Blue Shield fee levels are, on average, about 75 to 80 percent of those that physicians report they usually charge their other patients: commercially insured or self-paying (presumably wealthy) patients;

3. Medicaid fee levels are, on average, about 75 to 80 percent of those used by Medicare and Blue Shield Plans; or about 60 percent of the fees that physicians report they usually charge their other patients.

These results were confirmed later by reimbursement data from Medicare and Medicaid. Another study, the 1980 HIAA's annual survey of the member companies, also points to more generous commercial carrier allowance for physician expenses. According to the HIAA survey, 98% of the comprehensive major medical policies sold by commercial carriers had maximum benefits of $100,000 or more; in fact, 84% had benefits up to $1 million or no limit; 65% had out-of-pocket limits of $1,000 or less.[30]

Most commercial insurers do not collect their own fee data. Instead, they rely on data collected by HIAA to develop their customary fee screens. The Surgical Prevailing Health Care Charges System published quarterly by the HIAA contains fee data based on claims submitted by physicians to most of the large commercial health insurers. Mean and 50th-95th percentile physicians fees are published for individual surgical procedures for over 200 distinct localities. Table 44 presents the mean, 50th percentile and 90th percentile physicians fees in the 1982 issue of the Surgical Prevailing Health Care Charges System for the thirteen selected procedures (in fact, only nine procedures, the other for nonsurgical procedures are not collected in the HIAA

data) for selected localities. Data in Table 44 convey a general picture of physicians' fees that are submitted to commercial carriers, but not the actual fees allowed by commercial carriers. On the other hand, Table 45 presents the actual maximum allowable physicians' charges allowed by Equitable, Prudential and Western/St. Paul for selected localities, for the thirteen procedures. Prudential Co. provided the maximum allowable charges for the same eight localities as those listed in Table 33 of Medicare allowable charges. A comparison between these two sets of charges shows that for the selected procedures, the average physician's maximum allowable payment under Medicare as a percentage of that under Prudential policies ranges from .52 in Miami to .64 in New York City.

Table 46 illustrates variations in fees across the plans' maximum allowable charges where the charges are divided by the corresponding charges of the Equitable's plan. Los Angeles fees, allowed either by Western or Prudential, are the highest for every procedure. In Table 47 all fees have been normalized on the fee for an appendectomy to arrive at the relative values among the procedures.

3.3.5 Nomenclature used for Definition of Procedures

The use of third party systems to reimburse providers of medical services on a fee-for-service basis necessitates some means of systematic communication between third parties and physicians concerning services rendered. A concise procedural terminology is fundamental to the maintenance of either a fee schedule or UCR payment system. Three procedural code systems are now widely used in the United States. They are:

1. The California Relative Value Scales (RVS)

2. The Current Procedural Terminology (CPT) of the American Medical Association

TABLE 44

Maximum Allowable Physician Charges for Selected Procedures in Selected Localities: HIAA Data 1982

Princeton, NJ

	Mean	50th	90th
#3178 (Colectomy)	1491	1250	N/A
#3261 (Appendectomy)	588	590	775
#2992 (Tonsillectomy)	314	321	375
#3380 (Hemmorrhoidectomy)	486	495	675
#3631 (Hernia)	547	540	750
#4614 (Hysterectomy)	956	1000	1200
#4822 (Pelvic Delivery)	614	650	750
#5611 (Extrac. of Lens)	1102	1100	1450
#2357 (Insertion of Pacemaker)	423	300	N/A

New York City, NY

	Mean	50th	90th
#3178	1917	2000	2800
#3261	854	900	1200
#2992	434	450	600
#3380	632	650	950
#3631	838	850	1100
#4614	1549	1500	2200
#4822	597	660	1000
#5611	1693	1700	2500
#2357	641	600	850

Rochester, NY

	Mean	50%	90%
#3178	968	784	1080
#3261	441	450	525
#2992	238	250	300
#3380	372	356	500
#3631	434	432	500
#4614	682	713	785
#4822	538	540	625
#5611	859	890	975
#2357	N/A	N/A	N/A

Boston, MA

	Mean	50%	90%
#3178	927	950	1200
#3261	522	511	700
#2992	310	315	375
#3380	346	374	490
#3631	482	475	660
#4614	870	850	1200
#4822	423	400	600
#5611	1014	1000	1500
#2357	484	100	900

Connecticut (Hartford)

	Mean	50%	90%
#3178	N/A	N/A	N/A
#3261	459	475	575
#2992	268	260	355
#3380	365	350	450
#3631	442	450	525
#4614	785	800	1000
#4822	477	465	600
#5611	941	1000	1400
#2357	N/A	N/A	N/A

Los Angeles, CA (Downtown L.A.)

	Mean	50%	90%
#3178	1716	950	N/A
#3261	802	840	1100
#2992	383	378	500
#3380	611	648	911
#3631	794	800	1070
#4614	1380	1500	1850
#4822	N/A	N/A	N/A
#5611			
#2357	684	600	980

Louisville, KY

	Mean	50%	90%
#3178	N/A	N/A	N/A
#3261	435	450	550
#2992	286	275	365
#3380	414	440	484
#3631	446	455	550
#4614	651	725	900
#4822	411	400	560
#5611	914	850	1305
#2357	427	175	N/A

Cleveland, OH

	Mean	50%	90%
#3178	N/A	N/A	N/A
#3261	454	470	650
#2992	271	275	350
#3380	420	400	600
#3631	432	450	560
#4614	749	750	1040
#4822	514	560	600
#5611	998	950	1500
#2357	360	350	600

Miami, FL

	Mean	50%	90%
#3178	1314	360	2000
#3261	705	700	950
#2992	396	400	550
#3380	649	675	900
#3631	683	700	850
#4614	1325	1400	1800
#4822	508	550	806
#5611	1228	1200	1700
#2357	638	600	1250

TABLE 45

Maximum Allowable Physician's Charges for Selected Procedures in Selected Localities Under Commercial Plans, 1981

Carrier	Equitable	Western/St. Paul				
Location	Princeton	Minneapolis	Los Angeles	Boston	Princeton	Los Angeles
1. Initial Limited Office Visit	$ 45.00	---	---	---	---	---
2. Initial Comprehensive Office Visit	80.00	---	---	---	---	---
3. Electrocardiogram (EKG)	70.00	---	---	---	---	---
4. Partial Colectomy	1,750.00	$1,600.00	$2,160.00	$1,390.00	$1,785.00	$2,670.00
5. Appendectomy	750.00	570.00	1,100.00	700.00	815.00	1,225.00
6. Tonsillectomy, Adenoidectomy (child)	425.00	370.00	600.00	425.00	375.00	600.00
7. Hemmorrhoidectomy	700.00	450.00	990.00	530.00	700.00	1,000.00
8. Hernia, Inguinal	750.00	585.00	1,070.00	600.00	715.00	1,120.00
9. Hysterectomy	1,200.00	965.00	1,850.00	1,200.00	1,200.00	2,100.00
10. Vaginal Delivery	900.00	600.00	1,200.00	800.00	800.00	1,500.00
11. Extraction of Lens	1,500.00	1,320.00	1,950.00	1,500.00	1,295.00	1,800.00
12. Chest X-ray, Single View	45.00	---	---	---	---	---
13. Insertion of Pacemaker	1,650.00	1,259.00	1,750.00	1,400.00	1,875.00	2,500.00

Prudential					
New York City	Rochester	Boston	Louisville	Cleveland	Miami
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
$2,800.00	$1,600.00	$2,200.00	$1,600.00	$1,590.00	$2,310.00
1,300.00	525.00	625.00	580.00	690.00	1,100.00
700.00	300.00	450.00	365.00	375.00	585.00
1,000.00	600.00	825.00	600.00	625.00	850.00
1,200.00	550.00	680.00	575.00	635.00	800.00
2,500.00	850.00	1,240.00	900.00	1,075.00	1,985.00
1,500.00	750.00	850.00	605.00	720.00	1,200.00
2,200.00	1,600.00	1,500.00	1,600.00	1,070.00	1,735.00
---	---	---	---	---	---
2,815,00	1,500.00	2,065.00	1,500.00	1,750.00	2,440.00

TABLE 46

Variation in Maximum Allowable Physician Charges for Selected Procedures
Across Commercial Carriers and Across Locations, 1981

Carrier	Equitable	Western/St. Paul				
Location	Princeton	Minneapolis	Los Angeles	Boston	Princeton	Los Angeles
1. Initial Limited Office Visit	1.00	---	---	---	---	---
2. Initial Comprehensive Office Visit	1.00	---	---	---	---	---
3. Electrocardiogram (EKG)	1.00	---	---	---	---	---
4. Partial Collectomy	1.00	.91	1.23	.79	1.02	1.53
5. Appendectomy	1.00	.76	1.46	.93	1.09	1.63
6. Tonsillectomy, Adenoidectomy (child)	1.00	.87	1.41	1.00	.88	1.41
7. Hemmorrhoidectomy	1.00	.64	1.41	.76	1.00	1.42
8. Hernia, Inguinal	1.00	.78	1.42	.88	.95	1.49
9. Hysterectomy	1.00	.80	1.54	1.00	1.00	1.75
10. Vaginal Delivery	1.00	.67	1.33	.89	.89	1.67
11. Extraction of Lens	1.00	.88	1.30	1.00	.86	1.20
12. Chest X-ray, Single View	1.00	---	---	---	---	---
13. Insertion of Pacemaker	1.00	.76	1.06	.85	1.14	1.50
Average	1.00	.79	1.35	.90	.98	1.51

All charges have been normalized on the charges for Equitable (Princeton).

Prudential					
New York City	Rochester	Boston	Louisville	Cleveland	Miami
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
1.60	.91	1.26	.91	.91	1.32
1.73	.70	.83	.77	.92	1.47
1.65	.71		.86	.88	1.38
1.42	.86	1.18	.86	.89	1.21
1.60	.73	.91	.77	.85	1.07
2.08	.71	1.03	.75	.90	1.65
1.67	.83	.94	.67	.80	1.33
1.47	1.07	1.00	1.07	.71	1.16
---	---	---	---	---	---
1.71	.91	1.25	.91	1.06	1.48
1.66	.83	1.05	.84	.88	1.34

TABLE 47

Relative Value Scales of Maximum Allowable Physician Charges for Selected Procedures Under Commercial Policies, 1981

Carrier	Equitable	Western/St. Paul				
Location	Princeton	Minneapolis	Los Angeles	Boston	Princeton	Los Angeles
1. Initial Limited Office Visit	.06	---	---	---	---	---
2. Initial Comprehensive Office Visit	.11	---	---	---	---	---
3. Electrocardiogram (EKG)	.09	---	---	---	---	---
4. Partial Colectomy	2.33	2.80	1.96	1.99	2.19	2.18
5. Appendectomy	1.00	1.00	1.00	1.00	1.00	1.00
6. Tonsillectomy, Adenoidectomy (child)	.55	.65	.55	.61	.46	.49
7. Hemmorrhoidectomy	.93	.79	.90	.76	.86	.82
8. Hernia, Inguinal	1.00	1.03	.97	.94	.88	1.49
9. Hysterectomy	1.60	1.69	1.68	1.71	1.47	1.71
10. Vaginal Delivery	1.20	1.05	1.09	1.14	1.48	1.22
11. Extraction of Lens	2.00	2.32	1.77	2.14	1.59	1.47
12. Chest X-ray, Single View	0.06	---	---	---	---	---
13. Insertion of Pacemaker	2.20	2.21	1.27	2.00	2.30	2.04

All charges have been normalized on the charge for an Appendectomy.

Prudential						Average
New York City	Rochester	Boston	Louisville	Cleveland	Miami	
---	---	---	---	---	---	---
---	---	---	---	---	---	---
---	---	---	---	---	---	---
2.15	3.04	3.52	2.76	2.30	2.10	2.44
1.00	1.00	1.00	1.00	1.00	1.00	1.00
.54	.57	.72	.63	.54	.53	.57
.77	1.14	1.32	1.03	.91	.77	.92
.92	1.05	1.09	.99	.92	.73	1.00
1.92	1.62	1.98	1.55	1.56	1.80	1.69
1.15	1.43	1.36	1.04	1.04	1.09	1.15
1.69	3.05	2.40	2.76	1.55	1.58	2.03
---	---	---	---	---	---	---
2.17	2.86	3.30	2.59	2.54	2.22	2.31

3. The Professional Service Index (PSI) developed by the National Blue Shield Association (also called the National Association of Blue Shield Plans, NASBP).

It should be noted that most major carriers, including Blue Shield, commercial insurance companies and Medicare, Medicaid--that is, the actual paying agencies throughout the country--use their own terminological systems to meet what they consider to be the local needs. Many of the local systems are for the most part patterned after one of the national systems, in particular, the 1971 version of Blue Shield or the updated 1964 version of CRVS. Most recently, because of the legal action taken against CRVS and because of the greater comprehensiveness offered by the CPT-4, the CPT-4 has become increasingly popular among both private and public third party payers.

The CRVS is used by roughly 20 state medical societies and by most commercial insurers other than the Blue Shield Plans. The latter tend to use the third of these codes, the PSI, which was developed by Blue Shield in 1962. However, in recent years many Blue Shield plans have switched to the 1978 version of CPT (also known as CPT-4) as the basis of definition of procedures as well as of fee determination.

The Health Care Financing Administration has recently completed a study of the three major national systems of medical procedural terminology and coding in order to develop a single standard system which may be used to reimburse physicians in the future.[31] The historical development of the three systems has been characterized by a continually increasing number of procedures, as new procedures are added to accommodate developments in medical practice, and many old procedures are fractionated.

Essentially the precursors of these three nationally used systems were the fee schedules developed by the Blue Shield Plans in the 1940's. These

established patterns of descriptors and categories that formed the initial basis for development of all the current systems.

3.3.5.1 Comparison of Three National Medical Procedural Terminology and Coding Systems

Table 48 compares the most recent version of the three major national medical procedural terminology and coding systems: the 1978 updated version of NABSP, the 1974 version of CRVS and the CPT-4 or 1978 version of the CPT. Each system is described in terms of six important features for fee-for-service reimbursement: professional scope covered, and length and detail of the terminology system; relative values used; methods for determining relative values; conversion factors assigned; method for determining conversion factors; and effects of change.

(1) Professional Scope Covered, Length and Detail of the Terminology Systems

Both the CRVS and the CPT-4 systems group procedures according to the same five categories: medicine, anesthesia, surgery, radiology and nuclear medicine, pathology and laboratory. The NABSP system uses only four of these five categories, omitting Anesthesia.

The number of procedures included in each professional category indicates the degree of detail of a given code system. The number of procedures listed in each system has shown a tremendous increase since the systems were first developed as is indicated in Figure 5. In Figure 5 the growth in the number of coded procedures for each of the three code systems is charted side-by-side. It is evident that the rates of growth of all three systems are roughly equal. The newest version of the CPT-4 system provides the most detailed procedural terminology, with a total of 6,140 defined procedures. Table 49 illustrates the growth in CRVS in terminology within the category of office visits.

TABLE 48

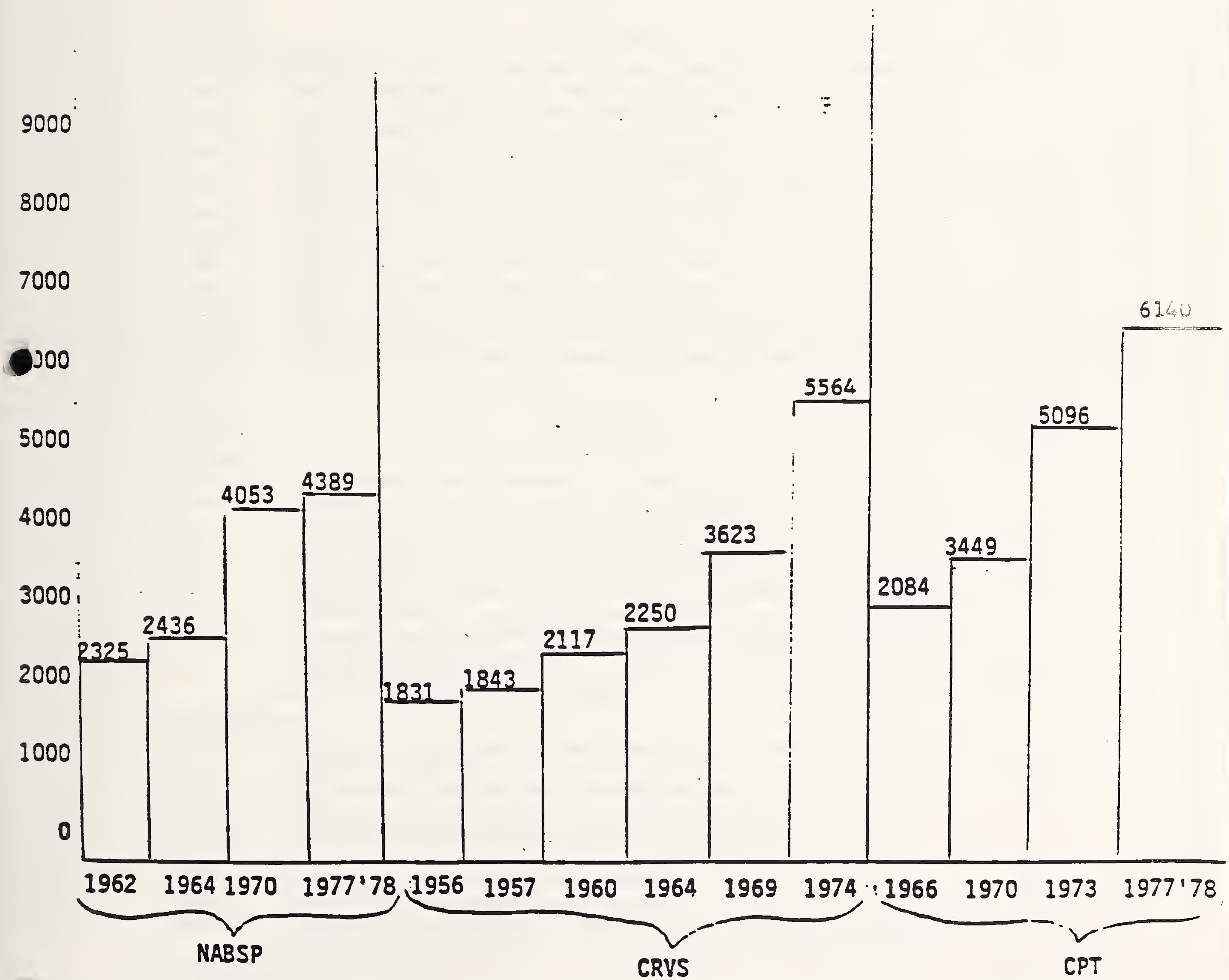
EVALUATION OF THREE MAJOR TERMINOLOGY SYSTEMS USING FEE SCHEDULES PROPERTIES

TERMINOLOGY SYSTEM	PROPERTIES OF FEE SCHEDULES					
	PROFESSIONAL SCOPE/ DEGREE OF DETAIL	RELATIVE VALUES	METHOD FOR DETERMINING REL. VALUES	CONVERSION FACTORS ASSIGNED	METHOD FOR DETERMINING CONV. FACTOR	EFFECTS OF CHANGE
NABSP '70 Updated through Jan. 1978	Medicine 294 Anesthesia 0 Surgery 2983 Radiology & Nuclear Med. 409 Path. & Lab. 703 TOTAL 4389	1962 & 1964 versions include indices which paralled in purpose the relative values of the CRVS, 1970 Manual omits the Professional Services Indices	Developed from existing & accepted fee schedules of all Blue Shield plans in the country. It is a composite of all these.	NA	NA	1962 1964 1970 1977,78
CRVS 1974	Medicine 500 Anesthesia 74 Surgery 3728 Rad. & Nuc. 421 Path. & Lab. 841 TOTAL 5564	Uses Relative Value Scales	Based partly on surveys of actual physician fees partly on the opinions of various med. society committees & other interested phys.	Diff. conv. factors for each professional category	Relates to the method used for determining rel. values preval or "correct price divided by an arbitrarily chosen conversion factor yield rel. val.	1956 1957 1960 1964 1969 1974
CPT-4	Medicine 499 Anesthesia 8 Surgery 4029 Rad. & Nuc. 604 Path. & Lab. 1000 TOTAL 6140	Is simply a terminological system-- has never included rel. values	NA	NA	NA	1966 1970 1973 1977,78

SOURCE: Based on Health Care Financing Administration "Medical Procedural Terminology Systems," Table 3.

FIGURE 5

Growth in the Number of Coded Procedures
Listed in Successive Editions of the Three Systems



SOURCE: Based on Health Care Financing Administration, "Medical Procedural Terminology Systems," Table 3.

TABLE 49

Example of proliferation of office visit categories, California Relative Value Studies—1956, 1964, 1974

CRVS code	1956 categories	Unit value
001	Office visit (first call—routine history and necessary examination)	2.0
006	Follow-up office visit	1.0

CRVS code	1964 categories	Unit value
9000	Initial office visit, routine, new patient or new illness, history and examination	2.0
9001	Initial (or subsequent) office visit, complete diagnostic history and physical examination, established patient or minor chronic illness, including initiation of diagnostic and treatment programs	3.5
9002	Initial (or subsequent) office visit, complete diagnostic history and physical examination, new patient or major illness, including initiation of diagnostic and treatment programs	6.0
9003	Follow-up office visit, brief; e.g., routine injection, minimal dressing, etc.	.8
9004	Follow-up office visit, routine	1.0
9005	Follow-up office visit necessitating professional care over and above routine visit	1.5
9006	Follow-up office visit, prolonged, over and above 9005	2.0
9007	Follow-up office visit necessitating complete re-examination and re-evaluation of patient as a whole (continuing illness)	3.0
9008	Re-examination, comprehensive diagnostic history and re-evaluation, established patient (annual type)	4.0

CRVS code	1974 categories	Unit value
New patient		
90000	*Brief* evaluation, history, examination and/or treatment	5.9
90010	Initial *limited* history and examination, including initiation of diagnostic and treatment program	7.6
90015	Initial *intermediate* history and examination, including initiation of diagnostic and treatment program	10.5
90020	Initial *comprehensive* history and examination, including initiation of diagnostic and treatment program	17.5
90026	An *unusually complex* medical problem, necessitating a comprehensive history and complete examination, extensive review of prior medical records, compilation and assessment of data, any age (For established patient, see 90086, 90087.)	BR*
Established patient		
90030	*Minimal* service, e.g., injection, minimal dressing, blood pressure or weight check (independent procedure)	2.4
90040	*Brief* examination, evaluation and/or treatment, same or new illness	3.5
90050	*Limited* examination, evaluation and/or treatment, same or new illness	5.2
90060	*Intermediate* examination, evaluation and/or treatment, same or new illness	6.5
90070	*Extended* re-examination and/or re-evaluation	8.7
90080	*Comprehensive* re-examination and/or re-evaluation	13.0
90085	*Comprehensive* re-examination or re-evaluation when complicated by chronically disabling condition	16.0

*BR: By report

SOURCE: Showstak *et al*. (1975), Table 6, p. 241.

(2) Relative Values

Relative values published for each procedure are quantitative but nonmonetary expressions of the worth or usual charge that one procedure commands when compared with all others. The CPT has never included relative values and hence has always been a strictly terminological system, rather than a fee schedule. The NABSP included relative values prior to but not after the 1970 revision. The CRVS, on the other hand, has always included relative values, referred to as "unit values."

(3) Methods for Determining Relative Values

The relative values used by NABSP prior to 1970 were developed from the exisiting and accepted fee schedules of all Blue Shield Plans in the country. The CRVS relative values were based partly on surveys of actual physician fees, and partly on the opinions of varius committees of the California Medical Association and other interested physicians. The relative value scales are computed separately for each of the five broad categories of physician services in order to avoid comparison across categories. For example, each surgical procedure with a unit value of five should command the same average price, but a medical procedure in the same study with a published unit value of five may have a different average price.

(4) Conversion Factors

Of the three systems, only the CRVS ever included conversion factors. Thus, CRVS, with both relative values and conversion factors included--are true fee schedules.

(5) Methods for Determining Conversion Factors

The CRVS, starting with its 1969 edition, forced insurers to use different, separate conversion factors for each of the five speciality categories of physician services.

To determine an appropriate conversion factor for a specific category (e.g., medicine) of the RVS which contains procedures performed by an individual physician, one should follow the following steps:

1. Select several procedures within the cateogry which the physician most frequently performs.
2. Divide the fee usually charged by the physician for each of these procedures by the unit values listed for them in the CRVS.
3. The physician may then choose the median, the mean, or some other value within the range of results produced by these divisions which he considers appropriate, and employ this number as a conversion factor for arriving at fees for some or all of the other procedures in this category. The selected conversion factor for a specific category is not applicable to any of the other four categories.

(6) Effects of Change

All three national systems have gone through several revisions, often involving an increase in the number of procedures included in the system. Such increases include: additions made to accommodate new techniques; major and minor changes in the wording of descriptors; and fractionating, i.e., using two or more descriptors in place of a previously used smaller number. In 1975, the Social Security Administration conducted a study to determine whether the terminological changes introduced in the more detailed 1969 edition of CRVS, had resulted in an upward shift in the reported levels of "intensity," since such a shift would indicate an increase in average charges which was greater than that suggested by the "pure" price changes.[32] This study showed that the change in terminology had indeed resulted in just such an upward shift, compounding the "pure" price increases. The study's general findings were: firstly, that increasing the detail in

which services may be reported is likely to increase the average reported degree of complexity; and secondly, that terminological changes may result in increased payments without a commensurate increase in the amount or intrinsic value of the services provided.

3.3.5.2 The Extent to Which the National Systems Influence Fee-For-Service Reimbursement

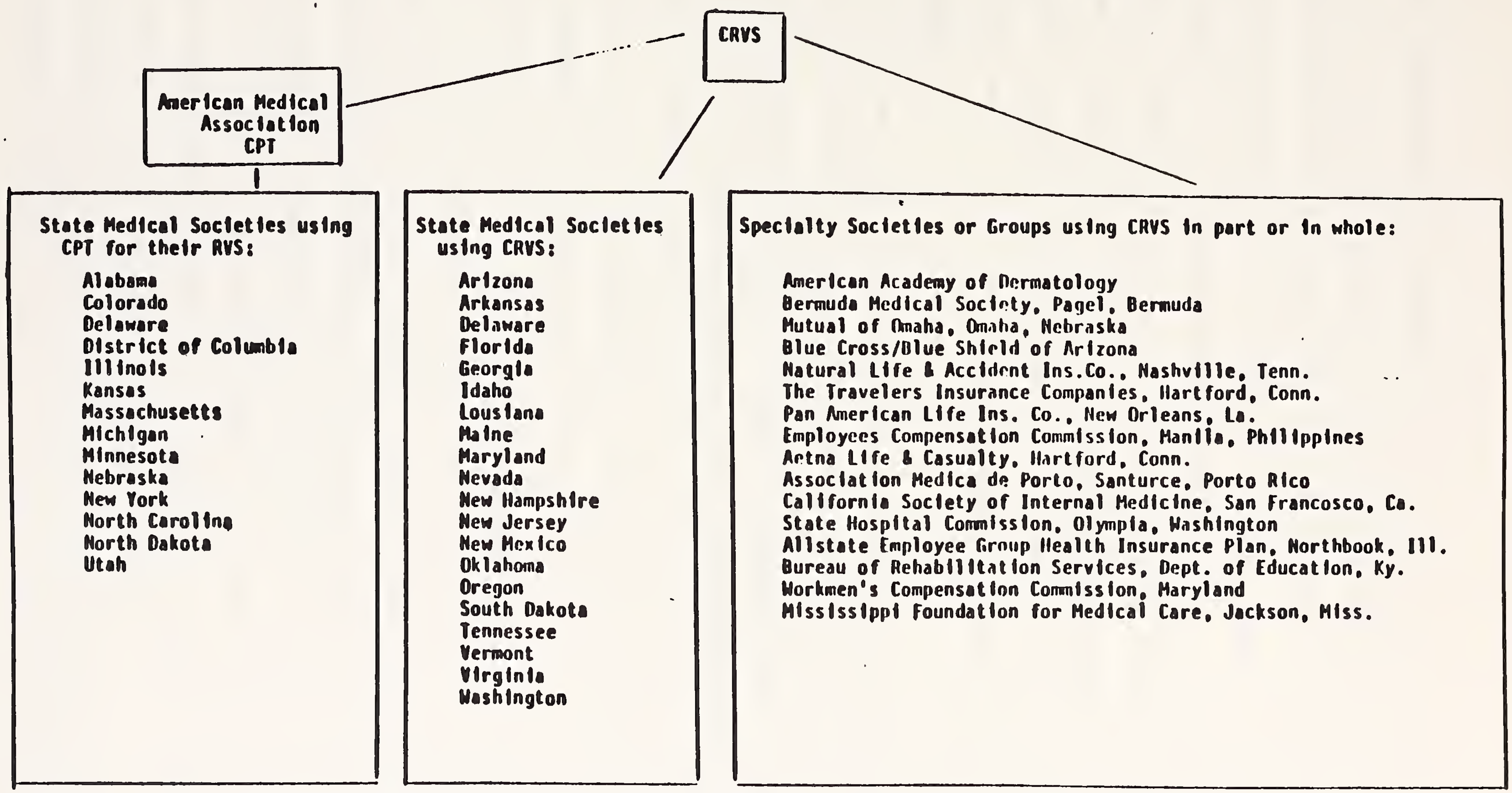
The three national terminological systems and their growth influence both the fee schedule and the UCR methods of reimbursement. It is, however, difficult to measure the extent of that influence in any meaningful way. One index of such influence is the number of organizations which are, in some sense, "using" the systems; another is the number of people associated with those organizations. But this does not reveal anything about, say, the effect of each system upon the fees actually charged. The somewhat limited information available from the literature is presented below.

According to the 1964 edition of the Blue Shield Professional Services Index, the NABSP system has been used "by many plans in its entirety as the basis of their local fee schedule." However, as indicated above, many Blue Shields are gradually switching to CPT-4, and in a few years all Blue Shields are expected to use CPT-4.

It is difficult to separate the historical influence of CPT from that of the CRVS on their present-day forms, since, as one observer noted, their development involved "considerable 'cross-fertilization.'"[33] For example, CPT-3, precursor of CPT-4, was based heavily on the coding and terminology of the 1969 CRVS.[34] Figure 6 records the extent to which CRVS and CPT have spread; it lists the states and professional organizations which adopted CRVS to CPT nomenclatures. (In Figure 6, the line connecting CRVS to CPT represents the influence of the former on the latter.) Although the

FIGURE 6

Use of CRVS and CPT by State Medical Societies
Specialty Societies and Other Groups



State Medical Societies using CPT for their RVS:

- Alabama
- Colorado
- Delaware
- District of Columbia
- Illinois
- Kansas
- Massachusetts
- Michigan
- Minnesota
- Nebraska
- New York
- North Carolina
- North Dakota
- Utah

State Medical Societies using CRVS:

- Arizona
- Arkansas
- Delaware
- Florida
- Georgia
- Idaho
- Lousiana
- Maine
- Maryland
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- Oklahoma
- Oregon
- South Dakota
- Tennessee
- Vermont
- Virginia
- Washington

Specialty Societies or Groups using CRVS in part or in whole:

- American Academy of Dermatology
- Bermuda Medical Society, Pagel, Bermuda
- Mutual of Omaha, Omaha, Nebraska
- Blue Cross/Blue Shield of Arizona
- Natural Life & Accident Ins.Co., Nashville, Tenn.
- The Travelers Insurance Companies, Hartford, Conn.
- Pan American Life Ins. Co., New Orleans, La.
- Employees Compensation Commission, Manila, Philippines
- Aetna Life & Casualty, Hartford, Conn.
- Association Medica de Porto, Santurce, Porto Rico
- California Society of Internal Medicine, San Francosco, Ca.
- State Hospital Commission, Olympia, Washington
- Allstate Employee Group Health Insurance Plan, Northbook, Ill.
- Bureau of Rehabilitation Services, Dept. of Education, Ky.
- Workmen's Compensation Commission, Maryland
- Mississippi Foundation for Medical Care, Jackson, Miss.

SOURCE: U.S. Congress, California Relative Value Studies: An Overview, Chart on Page 5.

literature surveyed does not include detailed information on who uses which system, it does describe in general terms how the systems are used. Members of medical associations use the terminological systems for billing (both to describe the procedure and to determine fees) and non-member physicians use them the same way. Third-party payers use them directly to compute "appropriate" levels of reimbursement. Foundations for Medical Care employ the systems to compute fees for third-party payers and consumer groups. The terminological systems, especially those which include relative values, can and are being used to construct fee schedules and to determine UCR charges.

3.3.6 Summary

The reader may emerge from the proceding section with the sense that the American system of physician compensation is best described as chaotic. The system almost defies description. It visits a complex paper war on both patient and physician, and of course, on the insurance industry as well.

Consider, for example, Dr. A in New Jersey. Let us assume that he "participates" in New Jersey Blue Shield, accepts Medicaid patients and accepts "assignment" from some of his Medicare patients but not from others. Such a physician would face a whole host of distinct fees for the same medical procedure. In 1980, for example, he would have received for a routine appendectomy $211 for a Medicaid patient, $184 for a Blue Shield subscriber with a family income below $8,500 and insured under Blue Shield Series 500; $368 for a subscriber to Blue Shield Series 14/20 with a family income below $20,000; probably a fee in the neighborhood of $450 for a Medicare patient; and probably between $500 and $800 for a commercially insured or self-paying patient, depending upon the physician's precise location.

Patients covered by Medicaid, appropriately low-income patients covered by Blue Shield and commercially insured individuals with service-benefit plans

that reimburse physicians on the UCR system with a 90th percentile "prevailing" charge would not have to contribute anything to the fee. All other patients would face sizeable copayments equal to the amount the physician chose to bill them minus the amount eventually reimbursed by their insurance carrier. In principle, the amount of this copayment can usually be ascertained in advance with telephone calls to the physician and to the insurer. In practice, most patients probably let events surprise them *ex post*.

Table 50 presents, once more, summary data on the insurance status of patients for a large nationwide cross-section sample of American physicians. The three rightmost columns indicate, respectively, the percentage of Blue Shield patients with UCR policies, the percentage of patients with Blue Shield policies for which the physician "participates" in Blue Shield and the percentage of Medicare patients for whom the physician takes "assignment," that is, for whom the physician accepts the Medicare UCR fee as payment in full (exclusive of the patient's 20% coinsurance.) Although this data show that the majority of Medicare patients are not accepted on assignment, that is, are likely to pay more than 20% of the Medicare UCR fee out of pocket, other sources indicate that as many at 51% of the medicare patients are indeed taken on assignment.

3.4 Reform of Physician Reimbursement--Designing a Sensible Fee Schedule

Existing physician reimbursement systems have been criticized on a number of grounds. This section describes a few of the more significant problems identified in the literature, and outlines several proposed solutions. Consideration of these problems and proposals leads to the formulation of three sets of questions to be used in the evaluation of any reimbursement

TABLE 50

INSURANCE STATUS OF PATIENTS IN MEDICAL PRACTICE UNITED STATES, 1977-78

	Percent of Patients Covered by*/				Percent of Patients**		
	1978				1977		
Specialty	Medicare	Medicaid	Other	No Insurance	UCR	Participation	Assignme
General and Family Practice	31.5%	15.1%	54.5%	16.4%	56.4%	52.8%	30.8%
Internal Medicine	42.7	12.0	60.5	9.4	54.0	46.9	32.9
Surgery	34.4	12.2	60.3	10.8	57.3	52.4	36.6
Pediatrics	3.4	16.6	57.5	24.3	60.2	57.2	34.0
Obstetrics and Gynecology	10.5	11.8	68.5	14.7	56.6	58.0	48.7
Radiology	35.6	15.6	51.9	9.8	72.6	76.7	63.9
Psychiatry	9.2	13.1	57.2	27.0	56.0	47.0	39.5
Anesthesiology	28.7	14.2	63.3	7.9	53.2	51.6	39.9
Other	26.3	14.9	56.2	16.1	69.5	53.9	46.5
Total	28.9	13.5	58.8	14.5	57.2	52.7	37.6

SOURCE: Twelfth (**) and Thirteenth (*) Periodic Survey of Physicians by the American Medical Association (unpublished data).

system. Guidelines for the construction of an efficient reimbursement system are suggested, and promising areas for research are identified.

One frequently criticized aspect of current fee-for-service physician reimbursement systems is the effect of certain financial incentives upon physicians' medical practices. For example, the relationship between the perceived cost of producing a medical service, and the fee assigned to that service in a fee schedule is considered to be important; a difference in the two figures provides a financial incentive which could affect the pattern of physicians' practices. Many researchers have suggested that existing fee schedules often do not reflect accurately the relative costs of producing services. The resulting distortions in price explain, at least in part, the observed misallocation of health resources.[35] The problem may be quite extensive. Hsiao *et al*. recently developed a relative value scale based upon

the resource costs required to produce different services. The resource costs they considered were the cost of professional's time, the effort and skills involved, the level of training needed, and overhead expenses. They compared the resulting resource-cost-based relative value scale to those of CRVS and other previaling fees and found that, for half of the surgical procedures studied, relative values determined from resource costs did not differ greatly from those of the CRVS or from current Medicare charges. However, significant differences were observed for the other half of the surgical procedures studied. Similar disparities were also found in comparing surgical procedures to office visits. The results indicate that, on the average, office visits are undervalued (or surgical procedures are overvalued) by a factor of four to five.[36] It has often been suggested that such differentials in reimbursement rates go a long way towards explaining both overspecialization in the medical profession and the vast differences in income received by the different specialists.

Other countries have made an effort to avoid such distortions. Authors of foreign fee schedules set fee differentials in ways meant to reflect the nature of each medical procedure: time and complexity are considered important factors. Similar approaches have recently been advocated for use in the U.S. Blumberg, for example, has proposed that the relative price for each service should be proportional to the costs of producing the services in an efficient manner.[37]

Research on the effect of physician compensation on physician activity in the United States is complicated by several factors:

1. Because, as a rule, there are no externally imposed, clearly articulated fee schedules to which the physician _reacts_, it is not possible to observe natural experiments in which to observe such reactions. Such

experiments are available from time to time in Canada, West Germany or France where individual physicians react to truly exogenous (externally determined) fee schedules.

2. Many American physicians practice in medical groups and receive their income according to distribution formulae that distort the effect of changes in fees on the individual's income. On the one hand, the formula insulates the individual physician from changes in fees. On the other hand, a deliberate change in behavior on the part of the individual physician--e.g., an increase in his own productivity or cost consciousness--will not necessarily lead to a perceptible change in his net income.

3. Because scientifically clean experimental designs are usually not feasible in this area, one is often forced to infer the response of physicians to external financial stimuli from cross-section surveys. Statistical inferences drawn from such surveys may be subject to a severe bias if the physicians in the sample preselected themselves systematically into particular financial environments. For example, if physicians who have chosen practice for a salary in prepaid group practices differ in important personal respects from physicians who prefer fee-for-service practice, then it may be misleading to draw inferences from observed differences in the behavior of the two groups or from the absence of observable differences in their behavior.

Tables 51 and 52 present data related to the question whether and how financial incentives influence the practice profile of individual physicians. These tables represent information retrieved from cross-section surveys undertaken, in 1973, by the American Medical Association. In these tables, "Revenue from Own Patients" signifies that the individual physician reacts directly to the fees charged by the practice. "Share of Practice Income" may reflect equal shares (regardless of own productivity) on the one hand or a

TABLE 51

Percentage Distribution of a Sample of Group Practice Physicians by Method of Income Distribution and Size of Group, 1973

		Method of Reimbursement		
Size of Group	Revenue from Own Patients	Share of Practice Income	Salary	Total
3	16	62	22	100
4	18	60	22	100
5-7	13	54	33	100
8-25	8	56	36	100
26 and Over	7	50	43	100
All Sizes	13	57	30	100

Source: Eighth Periodic Survey of Physicians. August, 1973. Center for Health Services Research and Development. American Medical Association.

Average Net Income by Specialty, Type of Practice, and Method of Reimbursement, 1973

	GP-FP	INT	PED	SURG	OB-GYN
Solo (Revenue from own Patients	39,200 (1,100)	45,200 (1,810)	39,000 (4,920)	58,100 (1,760)	52,800 (3,760)
Non-Solo (Partnerships or groups)	45,700 (1,530)	49,000 (1,750)	43,900 (2,730)	58,700 (1,880)	57,900 (2,680)
• Revenue from Own Patients	48,200 (2,970)	53,500 (5,200)	40,200[a] (4,340)	50,600 (5,060)	52,900[a] (5,930)
• Share of Practice Income	48,400 (2,020)	51,400 (2,150)	47,700 (4,290)	62,500 (2,560)	59,800 (3,880)
• Salary	33,400 (3,010)	41,400 (2,840)	37,000[a] (3,440)	54,600 (3,160)	56,100 (4,300)

[a] Fewer than 30 observations.

NOTE: Standard error of the mean is in parentheses.

SOURCE: Eighth Periodic Survey of Physicians, August, 1973. Center for Health Services Research and Development. American Medical Association.

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Table II—Average Number of Hours Practices Per Week by Specialty, Type of Practice, and Method of Reimbursement, 1973

	GP-FP	INT	PED	SURG	OB-GYN
Solo (Revenue from own patients)	50.5 (0.8)	50.9 (1.0)	47.0 (1.6)	50.4 (0.7)	50.4 (1.9)
Non Solo (Partnerships or groups)	53.4 (0.9)	55.0 (0.3)	51.3 (1.2)	54.8 (0.7)	54.5 (1.2)
Revenue from Own Patients	56.9 (1.8)	57.2 (1.7)	52.1[a] (1.9)	53.5 (1.8)	53.9[a] (3.0)
Share of Practice Income	53.4 (1.1)	56.1 (1.3)	52.2 (1.7)	55.2 (0.9)	54.2 (1.6)
Salary	49.0 (2.3)	51.4 (1.7)	48.3[a] (1.9)	54.6 (1.4)	55.1 (2.4)

[a] Fewer than 30 observations.

NOTE: Standard error of the mean is in parentheses.

SOURCE: Eighth Periodic Survey of Physicians. August, 1973. Center For Health Services Research and Development. American Medical Association.

Table III—Average Number of Visits Per Hour by Specialty, Type of Practice, and Method of Reimbursement, 1973

	GP-FP	INT	PED	SURG	OB-GYN
Solo (Revenue from own patients)	4.49 (0.14)	3.37 (0.17)	4.68 (0.23)	2.82 (0.08)	3.57 (0.61)
Non Solo (Partnerships or groups)	5.17 (0.17)	3.31 (0.12)	5.01 (0.27)	3.05 (0.08)	3.89 (0.14)
o Revenue from Own Patients	5.12 (0.28)	3.19 (0.26)	5.38[a] (0.59)	2.83 (0.23)	3.79[a] (0.28)
o Share of Practice Income	5.42 (0.24)	3.45 (0.15)	5.17 (0.40)	3.16 (0.10)	3.97 (0.20)
o Salary	4.29 (0.37)	3.14 (0.26)	4.20[a] (0.36)	2.88 (0.16)	3.78 (0.22)

[a] Fewer than 30 observations.

NOTE: Standard error of the mean is in parentheses.

SOURCE: Eighth Periodic Survey of Physicians. August, 1973. Center for Health Services Research and Development. American Medical Association.

SOURCE: Bobula (1978), Tables II and III, pp. 22 and 23.

formula that is largely based on the physician's contribution to group revenue. Although the financial incentives faced by physicians clearly varies among the cells in these tables, it is difficult to discern a distinct pattern linking physician activities to these incentives. As noted, however, the potential of preselection bias precludes one from drawing the inference that physicians are insensitive to financial incentives in the conduct of their practice.

It is sometimes alleged that the selective fee structures explicitly or implicitly adopted by American physicians tend to reward diagnostic and technical therapeutic procedures more generously than normal face to face counselling by physicians and that this circumstance tends to bias medical practice unduly toward technical procedures. On this hypothesis, for example, the California Medicaid program (Medi-Cal) altered the regular California Relative Value Scales (CRVS) for its own purposes by increasing the relative value scales assigned to primary care relative to those for technical procedures. Published studies on the effect of this fee schedule tilt are not as yet available.

It is known that physicians do respond predictably to gaps between what they consider fair market fees and those allowed by third-party payers such as Medicare, Medicaid or Blue Shield plans. A series of studies[38] have indicated rather consistently that the percentage of physicians who accept Medicaid patients or who accept "assignment" under Medicare tends to decrease markedly whenever the gap between market and reimbursed fee levels widens. The policy conclusion to be drawn from these studies is that it is not feasible for a single insurance carrier to control physician fees even if such a carrier accounts for as much as 120 percent of the total reimbursement received by physicians (as do the Medicare and Medicaid programs).

Besides providing incentives for physicians to overspecialize, the present fee-for-service systems encourage physicians to provide relatively high-quality, high-intensity services as compared to the alternative salary and capitation systems of reimbursement. Furthermore, the Medicare and Medicaid programs, by reimbursing urban physicians at rates significantly higher than those used for rural physicians, "provide incentives for physicians to locate in high-income, physician-dense metropolitan areas."[39] The current systems also tend to incude physicians to recommend higher utilization of hospital services. Gabel and Redisch point out that public and private insurance coverage--private coverage in particular--tends to be more comprehensive the more institutionalized the care.[40] Some insurance plans, for example, are structured in a way that the physician's services in the hospital are covered much more extensively than ambulatory settings. Within the hospital, physician's services in the intensive care until are covered at higher rates than in non-intensive hospital areas. When a patient is placed in an intensive care unit, he may receive the equivalent of private duty nursing at near-zero out-of-pocket cost. Thus, a perverse set of incentives is developed: while the cost at the margin to the patient is low, the cost to the society is high, and the marginal revenues to the physician are high. The present systems thererfore can encourage excessive utilization of services in hospital settings.

The present fee-for-service systems have been criticized on other grounds as well. One common criticism concerns the present practice of reimbursing different providers at different rates for providing a given service; it is argued that the practice adversely affects the manner in which the factors of production are combined. For example, by reimbursing a physician at a physician's implicit wage rate for performing services that could be performed

more cheaply by a physician's assistant, the payment system can encourage the inefficient utilization of scarce health-care resources. The aforementioned approach of making reimbursement rates proportional to the average costs of producing a service in an efficient manner could discourage such inefficiency.

Of course, not all of the issues can be resolved through research, for many of these issues are political in nature. Social scientists, however, may be able to provide useful perspective and relevant technical advice--important information for those attempting to solve the problems revealed by research. One illuminating exercise, for example, might be to explore the application of Ramsey-pricing, known also as "public-interest" pricing, to the problem of developing fee schedules. Under Ramsey pricing, an attempt is made to "depart optimally" from marginal-cost pricing, subject to the constraint that a given fixed cost per period (perhaps including a fixed profit) be yielded by the pricing scheme. The technique is currently being developed for application to high-technology industries in which fixed costs dominate the cost structure. Ramsey pricing appears thus to have potential for the pricing of laboratory services produced at high fixed costs and low marginal costs.

Exploration of other topics, however, has already inspiried numerous policy recommendations. One proposed approach towards solving the problem of unjustifiable differentials in reimbursement rates focuses on the valuation of physician's time; the cost of a medical procedure would depend primarily on the amount of a physician's time needed to perform the procedure. To explore this issue, one might calculate a set of relative hourly rates for the various specialities such that the net present value of an investment in medical training would be the same regardless of speciality. Using profiles of the training and lifetime work-patterns involved, one could compute the corresponding relative hourly rates of renumeration, for any given rate of

time value of money. Similarly, one could calcualte the level of absolute hourly rates necessary to ensure that an investment in medical training would yield a target rate of return. These implicit hourly wage rates could thus furnish a yardstick whose foundation has intuitive appeal and against which negotiated rates could be assessed.

To develop a sensible fee schedule, it would be desirable to have analytic models capable of indicating the fiscal impact of proposed changes in fee structures. Of interest is not only the impact on the budgets of third-party payers and on total costs, but on the income of the typical physician as well. One could use such models to evaluate, for example, the proposal that the high profit margins now incorporated into fees for laboratory services be eliminated in order to reduce the incentive for physicians to over-prescribe these services. If fees for these services now constitute a major source of physician income, however, one would not expect physicians to accept the relevant change passively. To implement such a policy, it might be politically necessary, at least initially, to raise fees for other services in order to keep physicians' income more or less constant. The question is then: which fees ought to be raised, and by how much? Teamwork involving physicians, economists, and operations-research specialists should produce information useful for answering this question.

The foregoing discussion has identified the major problems inherent in the present fee-for-service reimbursement systems and has suggested several approaches for dealing with those problems. The remainder of this subsection discusses the conceptual issues related to the design of sensible fee schedules, issues that have been raised by researchers, notably, Reinhardt[41], Blumberg[42], and Glaser[43]. The conceptual issues are organized into three categories, specifically, issues related to:

A. The overall design and administration of fee schedules.

B. The determination of the relative fee structures.

C. The determination of the absolute level of fees.

The questions raised within these categories capture the essence of the aforementioned problems inherent in the present fee-for-service systems as well as the several suggested solutions.

A. Issues Related to the Administration of Fee Schedules

(1) What is the professional scope to be covered by the fee schedule? Should the list of procedures for which physicians receive fee-for-service reimbursement also include anceillary services not normally requiring any input of physician time?

(2) What is the proper geographic unit to which a given schedule should apply?

(3) Should reimbusement for a given procedure depend on who performs the procedure? For example, should the reduction of a simple fracture when performed by a general practitioner be reimbursed at a lower rate than it would be were an orthopedic surgeon to perform the procedure? Should the fee for an injection differ depending upon whether a physician or a physician's assistant performed the procedure?

(4) How frequently should fee schedules be revised?

B. Issues Related to the Determination of the Relative Fee Structure (or Relative Value Scales)

(1) Should relative fees be determined by relative costs of producing the service, or by relative social valuation of particular services, or by some combination of the two? If relative costs should provide the basis, would it be relative marginal or average total costs?

(2) How should the value of physician time be factored into the calculation of relative costs?

(3) Should the risk to patients of a particular medical procedure be reflected in the relative value points assigned to that procedure, as seems to be desired by many physicians, especially those who incur high cost of professional liability insurance?

(4) Should relative fees be varied geographically to account for differences in the relative prices of inputs? Should there be rural-urban differentials?

(5) How frequently should relative fees be updated?

C. Issues Related to the Determination of the Absolute Level of Fees (or Dollar Conversion Factor)

(1) How should the cost of input prices be reflected in this absolute fee level? For example, should physicians choosing to practice in high-rent areas be automatically compensated for the high rents, or should the fee schedules reward cost-consciousness in locational choices? In other words, should absolute fees be varied geographically to account for differences in the input prices, should there be rural-urban differentials?

(2) What differentials among specialities are defensible in setting the absolute level of fees for an identical procedure? Should the absolute fee for a particular procedure vary depending upon which type of physician, or health practitioner performs the procedure?

(3) Is it possible to define the absolute level of fees in an intuitively appealing way--for example, an hourly rate--so that

the negotiators and the public might be able to react sensibly to the level of physician fees?

(4) Should the absolute fees for ancillary services--if such services are included in the fee schedule--include a profit margin or be set just to cover the physician's full cost? If the latter be the strategy, how should the high fixed costs of diagnostic equipment be treated?

It will be noted that some of these issues are purely technical ones, while others involve normative judgments. There remain, of course, still other issues requiring resolution before fee schedules can be implemented. For example, should such schedules be imposed on physicians or negotiated with them? Most researchers advocate the negotiating strategy. In that case, it must also be decided who should negotiate the fee schedules and whether physicians are permitted to bill patients over and above fees on the schedule. Finally, there remains the question of whether, in negotiating fee schedules, the parties should negotiate fees so as to assure physicians some targeted average income, or whether fees could be set so that the target income is attainable only by a physician whose practice is efficient.[44]

An overriding principle to be considered in the design of fee schedules is efficiency; fee schedules should encourage the efficient allocation of scarce resources. This principle can be translated into several general guidelines:

1. Services that are identical in terms of objectively determined standards of quality and medical content should be covered by one and only one fee, regardless of how or by whom they are produced.

2. There should be strict proportionality between the fees for medical services and the resource costs of those services, the latter including physician time.

3. The definition and measurement of resource costs (primarily the time of physicians and paramedical personnel, and supplies, including an allowance for the amortization of fixed costs) should be based on an objectively efficient mode of production. That is, delegatable tasks should, in principle, be reimbursed as if the lowest-cost personnel capable of performing such tasks had been employed.

To implement these guidelines it would be necessary to categorize the many tasks performed in a medical practice into distinct "procedures"; distinct fees could then be set for each procedure. Such categorization has already been attempted by the three major national systems of medical procedural terminology and coding. (Section 3.3.5.1)

Once a basic coding system has been established, one would then face the task of estimating the resource costs of "producing" efficiently each "procedure." There would be at least two ways to do so. First, a form of Delphi method could be used; seasoned medical practitioners themselves would estimate these resouce costs as best they can. It is quite possible that a strong enough consensus would arise for one to recommend adoption of a particular relative fee structure. The alternative approach would be to undertake very formal task analyses of the sort described in Smith *et al*.[45] However, it is all too easy for analytic formulations of relative fee structures to be too far removed from reality to be useful. The identification of efficient patterns of task delegation through activity analyses and linear programming techniques--of the sort performed by Smith *et al*.--may incorporate into one's efficiency-norms a degree of discipline which human beings cannot sustain. There is an added problem: in that some of the "efficient" task delegation patterns may not be feasible in all settings--e.g., small rural practices that cannot justify having three or four aides per

physician. To implement truly efficient fee schedules in such settings, one would have to modify any fee schedule designed for typical urban physicians, a research task in its own right.

The preceding remarks suggest the desirability of supplementing any such formal analytic study with a thorough review of the existing fee schedules--schedules from the U.S. and from other nations using fee-for-service methods. Such a review would provide a real-world data base with which to evaluate conclusions made using the task-analytic approach, in addition to yielding insights on alternative code terminologies.

3.5 The Determinants of Physicians Fees[46]

American health economists have for years sought to develop models that can explain inter-speciality, inter-procedural and inter-regional variations in observed fee levels. Extensive and technically complex literature has been produced under this topic. The following major conclusion can be briefly noted from a research of that literature.

1. Adjustment of absolute fees for inter-regional variation in the general cost of living index reduces the observed variation in abosolute fees substantially, but by no means completely.

2. Adjustment for certain anemities (quality of the office layout, length of visit and educational level of the physician) can account for a noticeable proportion of the observed inter-physician variation of cost-of-living adjusted fees. Indeed, real hourly fees in the United States are much more uniform geographically than absolute fees.

3. Other things being equal, the cost-of-living adjusted level of fees responds sometimes positively and sometimes negatively to increases in the physician population ratio. These inconclusive findings permit the existence, side by side, of two rival theories of fee determination, namely:

A. The neoclassical thesis that fees respond to changes in supply and demand just as do prices in any other market.

B. The thesis that physicians set fees to reach a desired target income and that fees therefore rise as the physician-population ratio rises.

One of the problems in undertaking research on the level of fees has been the difficulty of characterizing the level of a physician's entire fee structure by a single scale or measure. This problem has not so far been solved satisfactorily. To date, an agreed upon single theory of fee determination capable of explaining the fees of American physicians has therefore eluded American health economists. The debates on the alternative theories of fee determination and a possible solution to the deadlock are presented below.

3.5.1 A Broad Interpretive Review of History of the Debate Over Physician-Induced Demand

The development of the debate over physician-induced demand seems to have taken place in five stages: formation of conceptual issues; appearance of key articles; development of formal models; reaction to and reception of the induced-demand hypothesis; and finally, a deadlock. The first two stages occurred in chronological order, while the latter stages took place somewhat simultaneously. Each stage is discussed briefly below:

3.5.1.1 Development of Conceptual Issues

The origins of the induced-demand hypothesis are not entirely clear, but a likely source of inspiration may well have been the speculation over the behavior of hospitals.[47] Emerging from work performed in the late 1950's by Roemer and Newhouse. "Roemer's Law" states that, under conditions of extensive insurance against the cost of hospitalization, the supply of hospital beds tends to induce the use of hospital care. That is, if beds are

built, they will tend to be filled. Curiously, a decade passed before the extension of Roemer's Law was applied to physicians, although such an application might seem a logical and straightforward step. In the meantime, health economists became preoccupied with the question of price discrimination among physicians. The key article here is clearly Kessel's much celebrated "Price Discrimination in Medical Care" which appeared in 1958. Kessel argued that, partly due to the AMA's restrictions on the number of physicians, the latter exercised a considerable monopoly power and used this power to price discriminate between poor and affluent patients. Kessel's conjectures on monopoly power in the physician market made an even greater impression on the economic profession than had Roemer's Law, and clearly influenced the preliminary formative articles on the subject of physician-induced demand which appeared in the early 1970's.

3.5.1.2 Appearance of Key Articles

The articles on demand-inducement came in two major waves, beginning with the publication of Newhouse's "A Model of Physician Pricing" in 1970, and various commentaries on Newhouse's work. The second wave was led by the work of Canadian economist, Robert Evans.

In his original article, Newhouse clearly takes his inspiration from Kessel, insofar as he concentrates on an examination of price discrimination and monopoly power. He does this by constructing two models: the first for monopoly pricing and the second for competitive pricing. Econometric evidence suggested to Newhouse that the monopolistic model was the more accurate portrayal of the market for physician services. Unfortunately, Newhouse made a technical error in constructing his model by failing to treat the marginal cost of physicians' services consistently in both models, a discrepancy pointed out by Frech and Ginsberg in their published comment.[48]

In the meantime, M. Feldstein published a highly influential article, "The Rising Price of Physician Services."[49] Using 18 data points from the period 1948-66, Feldstein developed a model of the physician market which displayed some extraordinary characteristics. For example, the estimated demand curve had a positive slope. Feldstein interpreted this result to mean that "the aggregate pricing and use of physician's services can be understood best by assuming that permanent excess demand prevails. Sheltered by this permanent excess demand, physicians have discretionary power to vary both their prices and the quantity of services which they supply." However, Feldstein's results were later rejected by analysts on the grounds that his model was under-determined by the data. But, however, the Feldstein paper had already had a widespread impact on the economists' community. This may explain a peculiar thread running through Newhouse's reply to Frech and Ginsberg, which appeared in 1971 after the publication of Feldstein's article.[50] After acknowledging his technical error in the original paper, Newhouse chose to elevate a minor point which he made in a footnote of this 1970 paper to play a major role in his 1971 reply. Addressing the question of a positive relationship between price and the number of physicians in an area, he contended: "the explanation of a positive dp/dn is that physicians are satisficers. . . the target income hypothesis is consistent with a positive dp/dn, while the simple maximizing models, either competitive or monopolistic, are not" (Newhouse and Sloan 1971, p. 31). It is interesting to observe that whereas, in his earlier paper Newhouse had stressed market structure, he now chose to borrow a concept widely used in the decision-making process of bureaucratic organization and big corporations.[51]

The second wave of articles carried this approach even further.[52] In 1972, Evans' "Price Formation in the market for Physicians Services in Canada

1957-1969" appeared. This paper incorporated a formal model of the target income hypothesis. In 1973, he published another article which introduced a rather different model of the physician firm. In this model, physicians have a capacity to exert "discretionary influence" on the demand for their services. Evans specifically compared this influence to the capability of monopolistic competitors to use advertising, asserting: ". . . if physicians are pure income-maximizers it is clear that each individual physician will always exert as much influence as he can to increase demand for his own services. In this case, analysis of the medical services market becomes merely a version of the monopolistic competition model with advertising and a rather peculiar cost function."

Evans went so far as to demonstrate what such a model would generally look like and reported on some of the first- and second-order conditions, although he did not actually display them. In the same year, Evans also published results of empirical work which he claimed was not inconsistent with his contention of physician-induced demand.

Fuchs and Kramer examined physician expenditures in the U.S.[53] during the period 1948-68, and came to the conclusion that "supply factors (technology and number of physicians) appear to be of decisive importance in determining the utilization of and expenditures for physicians' service." This finding was widely quoted in subsequent literature.

3.5.1.3 Development of Formal Models

Following the lead of the key articles in the preceding section, the formal models of both induced-demand and neoclassical type have evolved in terms of both detail and sophistication in the next few years. For example, Sloan and Feldman devoted considerable effort to a detailed examination of the first- and second-order conditions limited by Evans; they also suggested

models incorporating quality-related variables. Pauly and Saterthwaite, on the other hand, presented a neoclassical-type model incorporating a number of concepts from operations research.[54] Ramsay recasted the neoclassical model in an elegant way, and devoted considerable attention to some of the technical issues.[55] One aspect of the increasing sophistication of model building results from the economists' heightened awareness of the econometric pitfalls of modeling the physician market. This will be discussed more fully below.

3.5.1.4 Reception of the Induced-Demand Theory

The induced-demand hypotheses, especially the target income varieties, have disturbing implications for other branches of economics. It is not surprising, therefore, that many economists who had initially supported the theory began to have second thoughts about the realism of the hypotheses. Indeed, many of the early advocates of inducement theory became its sternest critics. Sloan, for example, who had supported Newhouse's reply to Frech and Ginsburg six years earlier, attacked the hypothesis in his article summarizing the state of the art of the debate on demand-inducement.[56] Other economists seemed to be searching for some middle ground in the dispute. For example, in an article appearing in the same conference proceeding, Pauly answers his own question: "Is medical care different?" with an unequivocal "yes, no and maybe."[57]

In general, as noted by Reinhardt, attacks on the demand-inducement hypothesis are based either on econometric or on theoretical grounds.[58] Some defenders of neoclassical theories have charged that the data which allegedly support the inducement hypotheses are flawed. Other defenders have taken the other track; rather than denying the validity of the data evidence, they respecify the neoclassical models in such a way that they, too, are compatible with all available evidence. The result of these efforts is the current state of deadlock.

3.5.1.5 Deadlock

With regards to the impending deadlock in the debate over demand inducement, Yett expressed some reservations about the ability of conventional tools to resolve the controversy unambiguously.[59] However, the paper that defined a new state in the controversy was undoubtedly Reinhardt's 1978 paper.[60] In this paper, Reinhardt carefully laid out each of the multipliers implicit in both the standard neoclassical model of the physician market and the demand-inducement model, which was Evans' advertising analogue model later elaborated by Sloan. Determining the sign of each of the multipliers, Reinhardt arrived at the startling conclusion that only in the relationship between physician fee and relative physician supply was there hope of distinguishing between the two competing models. In the cases where variables other than physician fees were used as dependent variables, there was no theoretical justification for distinguishing between the two models on the basis of the sign of the multiplier.

Unfortunately, even the one qualifier capable of distinguishing between the two models, i.e., a positive relationship between physician fees and physician/population ratio--did not long survive the assault of the neoclassicists, as Reinhardt reported two years later. Models such as that in Satterthwaite remove the hope of distinguishing between two models.[61] He argued that increases in the physician/population ratio within a given market area may lead to a reduced price elasticity of the demand for the individual practitioner's services, thus permitting increases in fees without necessitating any further discretionary action by the physician to induce the demand for his service. This led Reinhardt to conclude that in the absence of fundamentally different types of models, the controversy had reached a "deadend."

3.5.2 Notes on Evaluation of the Controversy

Section 3.5.1 above outlined the basic dimensions of the debate over demand-inducement and traced its history up to the present state of impasse. In this section an attempt will be made to sort out the thrust of the debate and perhaps even venture a set of speculations.

First, an examination of the literature reveals that there are a number of places where supporters of one position or the other repeatedly make assertions which the other side needs to examine vigrorously. For example, in at least three occasions, Sloan has made the assertion that if physicians maintain a target income and thus raise their prices when physician/population ratio increases, then they would be expected to lower prices in the face of factors causing exogenous increases in demand, e.g., a rise in insurance coverage.[62] This point is probably made in an attempt to explain the decline in physicians' real income. However, this argument is not intuitively obvious since, after all, the physician could simply maintain prices and work fewer hours when there is an increase in physician density. Moreover, the level of insurance may well be a factor in determining the size of the target income itself, or the effectiveness of the "discretionary influence/advertising-like factor." The point of this example is that there are a number of unexamined assertions which deserve closer examination in the future.

A more fundamental and significant problem is that both sides need to resolve glaring deficiencies in their positions. For example, the neoclassicists must find a way either to argue away "perverse" econometric results, or to respecify the traditional model so that it is compatible with these results. Otherwise, the researcher will find himself in an embarrassing position, as illustrated by the following statement: "We are unable to explain why the sign of the physician/population ratio coefficient is

consistently negative in fee regresssion pertaining to general practitioners and surgeons, but not in regressions pertaining to the other three major physician fields."[63] The advocates of demand-inducement, on the other hand, find themselves doubly embarrassed. Firstly, the target income hypothesis suffers noticeably from lack of theoretical rigor and internal consistency. Secondly, the advertising analogue model, while rigorous and consistent, is inherently incapable of verification, at least in its present form.[64] Thus, the inducement models need to be more precisely reformulated.

At present, little progress seems to have been made in reformulating the target income hypotheses, while the advertising-analogue models have received extensive attention as well as interesting commentaries. Pauly, Reinhardt and Dyckman suggest that the ability to "advertise" may vary across disease types.[65] Their reasoning is as follows: the constraint on the use of advertising is generally assumed to be twofold. Firstly, psychic costs, i.e., guilt, rise, the more the physician prescribes procedures, the marginal costs of which outweigh their benefits. Secondly, time-cost and frustration increase in convincing patients to submit to additional services. There seems little reason to believe that these costs are constant across diseases. For example, in the cases where patients have little experience with a procedure, when they are highly insured against its costs, when they are unaware that it has been prescribed (as in the case of some laboratory tests), or when they do not regard it as being painful or unpleasant, then the physicians' use of the advertising factors should be much cheaper, and consequently he will use it to a greater extent than in the converse case. This line of thinking suggests that ancillary procedures may be particularly susceptible to the physician's practice of "advertising factor." Evidence on this score may be provocative,[66] but for reasons stated in Section 3.5.1.5, it is impossible to

prove this point through observation of gross changes in the amount of procedures prescribed as the physician/population ratio changes.

On the neoclassical side of the debate, clearly the most valuable contribution to date has been the gain in understanding of misspecification of econometric model of health care. The debate has served to point out the untypical features of the commodity of medical care and the danger of treating these features naively. It will be more difficult for future economists to approach health services research with the belief that the power of their standard methodology provides an effective substitute for substantive knowledge with health care. In particular, more effort will have to be devoted to the treatment of quality-related variables, costs of time, travel and information gathering, as well as the effects of health insurance and the roles of insurers, the impact of technological change over time and the effects of physician-speciality on the market. In short, neoclassicists should not forever write off "perverse" econometric results as the product of misspecification since, as Reinhardt points out, "only God would be completely immuned from specification error in econometric research."[67]

3.5.3 A Possible Solution to the Deadlock?--A Tempting Thought

The current state of deadlock over the debate suggests that a thorough reassessment of basic principles held by the two sides is necessary in order to determine the future course of research and controversy. The following conjectures are offered only as one way to characterize possible avenues toward breaking the deadlock.

It appears that the basic quarrel in the debate is not between those who do not believe there is demand inducement and those who do, but rather between those who take the target income hypothesis seriously and those who do not. The fundamental questions involved are: is it sensible to talk about target

income for physicians? How does one explain the varying target incomes observed in the real world? What determines the level of the target, or is there something basically askew with the whole idea of target incomes?

Answers to shese questions seem to suggest a dichotomy: one may feel that the target income hypothesis is a proper but possibly misformulated theory, or one will believe that the idea is fundamentally wrong and that the current debate has stemmed from an illogical inference stemming from confusion about what economic theory is supposed to do. The positions that are held in accordance with this schism can be outlined as follows:

a. The basic belief: the target income hypothesis is legitimate albeit controversial.
   The suggested resolution: (i) extended data collection, (ii) improved theorising methodology.

b. The basic belief: the target income hypothesis confuses the behavior of firms with the behavior of the market. The suggested solution: (i) focus on the market, (ii) focus on the firm.

Each of these positions are discussed more fully below.

1. Target income Hypothesis is Legitimate Albeit Controversial:

The basic belief: Advocates of this position take the viewpoint that the concept of target incomes is a perfectly legitimate notion in explaining the allocation of resources in the market. Income targets may or may not exist and may ultimately prove to be useless in explaining the real world behavior. Nonetheless, the target income hypothesis is not fundamentally different in nature from, say, hypotheses concerning Cournot oligopolies or price discrimination. The explanation for the apparent stalemate in research is simply a lack of clear cut data, or a failure to specify the competing

theories sufficiently clearly. This leads to two research strategies.

(i) Extended Data Collection

The advocates of this strategy are unlikely to suggest the collecting of more of the current type of aggregate data, since the present stalemate seems to make clear that aggregate data are unhelpful in resolving the debate conclusively. An alternate approach is to look for new types of data which will allow a resolution among competing theories. For the neoclassicists, attractive data might include measures of perceived quality or index of technological change. Such data could then be incorporated into traditional models to explain the apparent perverse relationship between prices and physician density. Among the proponents of the target income hypothesis, the obvious candidates for data collection efforts would be social psychological variables capable of explaining or predicting income targets.

(ii) Improved Theorising Methodology:

Since most of the attempts at model expansion and correction have been discussed in the previous sections, they will not be repeated here.

2. Target Income Hypothesis Confuses Firm With Market:

The basic belief: in the current debate, advocates of this position perceive a basic confusion stemming from failure to differentiate those questions appropriate to the conventional theory of the firm from those appropriate to a behavioral theory of the firm. As pointed out by Cyert and March, [68] the conventional theory of the firm is a theory of markets purporting "to explain at a general level the way resources are allocated by a price system." One important question answered by this theory is the determination, at a very aggregate level, or prices and outputs. The behavioral theory of the firm, on the other hand, is directed at questions "relating specifically to firm behavior that the (conventional) theory cannot

answer and was never developed to answer, especially with regard to the internal allocation of resources and process of setting prices and outputs." In other words, the conventional theory of the firm is a theory about markets; the behavioral theory of the firm is a theory about microbehavior. *The target income hypothesis could very well be a component of a theory of the microbehavior of physician firms. It is therefore, part of a behavioral theory of physicians' firms and, hence, has no place in theories about aggregate market behavior.*

According to this rather radical view, much of the current debate was simply misdirected, and a new interpretation of the debate could be given, under which researchers fall into two distinct groups: those interested in market behavior, and those interested in the microbehavior of firms. Research strategies for both of these groups are discussed below.

(i) Focus on the Market:

Once it has been recognized that the proper place for target income hypothesis lies in the study of the firm's microbehavior, rather than in the discussion of markets, the remaining issues become considerably more clear. The contending models now look remarkably traditional. In fact, they look like the models economists have been building for years. The first set of models concern the profit and utility maximizing varieites, both essentially neoclassical. The second set closely resembles formal models of advertising, where advertising is persuasive rather than informative, and allows the potential for demand shifts. If one pursues this line of thought further, one seems to be heading in the direction of industrial-related concerns, particularly in the case of market structure and market conduct of physicians. For example, in examining local markets, evidence suggests that researchers will need to be considerably more careful in their definition of market

areas,[69] and special care should be given to disaggregating markets by physician types rather than treating them as monolithic.[70]

However, examining the market conduct of physicians, especially with regard to the unseen "advertising factor," is a difficult proposition. Reinhardt[71] has suggested the approach and desirability of tracer studies in which researchers attempt to follow the entire treatment of a specified illness in alternative settings. Studies of this type have not received sufficient attention in the literature, but might be though of as an extension of standard production functions.[72] Prototypical studies such as Held and Manheim suggest that this could be a fruitful line of inquiry.[73]

(ii) Focus on the Firm:

Researchers of the behavioral theory of the firm usually draw a distinction between the study of the realistic "motivation" of the managers of the firm and the study of the actual "process" whereby firms reach decisions on price and output.[74] It is generally assumed that the process of making decisions incorporates organizational goals, such as inventory goals, which are conceptually distinct from the utility-maximizing goals of individual managers. However, it becomes more difficult to separate managerial objectives from the goals of the firm when the firm consists solely of one manager, as is the case of a physician's practice. Under those conditions, one might well wonder what sense there is in treating organizational decision-making separately from maximization of managerial goals. This is probably a question of methodology. If a researher treats the physician firm exactly like a traditional firm in conventional theory, with the exception that the physician assumes utility maximizing behavior, then the results will probably reveal more about the aggregate market behavior of physician firms than about their microbehavior. In fact, Ramsay demonstrates that there may

be no real conflict between a profit and a utility maximizing physician firm.[75] Conversely, if the researcher rejects maximization for the study of adaptive behavior incorporating various goals, including one on income targets, then his contribution may reveal much about microbehavior but little about that of markets.

The literature sometimes makes tangential references that a potentially fruitful approach to the study of microbehavior may involve much closer attention to the so-called relationship between the physician and the patient.[76] The basic idea is that a physician acts both as an agent for patient-consumer, helping the patient to select medical procedures, as well as the producer of these services. Clearly there can be a conflict between the physician-producer's economic interests and his role as disinterested agent. How does the physician resolve these goals? It is here that the notion of income targets may prove useful. Once the problem is structured this way, it also seem plausible that many more goals and relationships between these goals will need to be articulated. For example, will the physician have an expenditure ceiling goal for the patient, operating against his income goals? Surely, a goal concerning the patient's physical welfare will enter the physician-agent's decision process.

3.5.4 Policy Implications

Most of the discussions on policy implications of the demand-inducement hypothesis have focused on restricting the supply of physicians. The logic runs like this: if physicians have a target income, then total expenditures simply equals number of physicians times their target income; therefore, in order to control expenditures, one must control the number of physicians. However, if the furor over the target income hypothesis stems from semantic confusion, then the policy prescriptions become much less clear. For example,

suppose that the advertising analaogue model is correct, at least for certain procedures, and further assume that as firms, some physicians may have a substantial degree of monopoly power, what, then, are the avenues to cost containment in such a world.

One might expect two general types of responses; advocating some sort of direct controls or a still dose of competition.

Direct controls can take at least three approaches. Firstly, one could control the aggregate supply of physicians, perhaps, by specialty; secondly, one could control physician's fees through a uniform fee schedule; thirdly, one could try to control service mix of physicians.

Consider the control of the supply of physicians in the world of a multi-product physician firm with varying degrees of monopoly and "advertising" power among its products. Is there any way to control supply under these circumstances? It should be remembered that controls on supply are indivisible--they apply to physicians across all the product markets in which they are involved. But suppose controls could be applied selectively to the different markets. In the competitive-like portion of the market, supply controls will tend to give monopoly power to presently competitive providers. In the monopoly-like portion of the market, limiting the supply of physicians will simply worsen an already bad situation. In the "advertising-effective" sub-market, limits on entry will tend to make this sector resemble the monopoly one--"advertising" or inducement activities might decrease, but probably at the expense of increased monopoly rents.

What about controlling fees through fee schedules? In a competitive-like market, price controls make little sense. In the monopolistic-like market, fee controls may serve to reduce monopoly rents although the technical problem of setting "appropriate" fees could be insurmountable. In the "advertising-

effective" sector, fee schedules miss the point, for the real question is quantity of services provided. In fact, fee schedules might have a perverse effect if they serve to lower physician income: by lowering physicians' hourly wage, the schedules may in effect make it cheaper for the physicians to invest more time in persuading patients to use more services.

But suppose that a fee schedule (aimed at limiting monopoly rents) was combined with controls on allowable output in the "advertising-effective" sector. For example, a PSRO-like mechanism could monitor the use of laboratory procedures while another governmental unit composed a fee schedule. Such an arrangement might, in theory at least, address the problems in the physician market. On the other hand, the costs of such a system could be very large. Its design certainly could be enormously difficult and the political problems of implementation are countless.

This sort of mental calculation has led many observers of the health care system to turn to competition as the road to salvation. Three general approaches might be worth considering. Firstly, there are the traditional tools: anti-trust, the encouragement of "normal" advertising, elimination of barriers to entry and so forth. Prospects for this approach have recently been discussed elsewhere.[77] A second approach involves consumer health education.[78] Although educated consumers confronting monopoly power have the dubious pleasure of understanding exactly how they are being exploited, they could have considerable effect on raising the cost of "advertising" to providers. This approach clearly warrants investigation, since it may turn out that consumers feel the marginal cost of health education to be high relative to the expected marginal benefits from reduced susceptibility to the "advertising" factor. A third approach involves competition through "quasi-markets." The term "quadi-markets" covers a spectrum of policy

alternatives varying from "consumer choice" plans, to negotiated fee schedules (as in the case of the Federal Republic of Germany), to the calculated over-supply of physicians. Despite their diversity, they share a common assumption that competitive forces will bring greater efficiency in the physicians' sector. However, a moment's reflection suggests that two caveats are in order. Firstly, absent classical free markets, there is simply no guarantee that any single move toward second-best, or greater competition will necessarily be a move toward increased social welfare. Secondly, quasi-markets are not markets, they necessarily incorporate many political, bureaucratic and historical dimensions. Not only are these dimensions poorly understood in their own right, but their probable interaction with their market aspects may be a total obscurity. It is, therefore, hard to avoid the conclusion that many proponents of health care competition are merely advocating the replacement of poorly understood regulatory programs with poorly understood quasi-markets. One thing to remember is that just as demonstrations of market failure are not prima facie grounds for government intervention, neither are demonstrations of regulatory failure sufficient grounds for the introduction of quasi-markets.

This survey of policy options seems to have made one point clear--that there is a need for a wider menu of policy options in recognition of the complexity of problems in the area of physician manpower policy.

3.6 Concluding Remarks[79]

Critics of American medicine see in its heavy reliance on fee-or-service compensation one of medicine's major vices. The system is said to encourage piece-rate production habits, the excessive application of medical services to the treatment of illness, an undue tilting of treatment modalities toward the relatively more profitable procedures, and, in the absence of extensive

insurance coverage to act as a financial barrier between patients (especially poor, uninsured patients) and health care. Such critics have long proposed to "take the money out of medicine" by converting the entire system of physician compensation to a salaried basis.

It is, of course, sheer folly to pretend that salaried medical practice "takes money out of medicine." That basis merely introduces money in a different way. Critics of salaried medical practice argue that this basis results in just as many evils as does fee-for-service practice, only in the opposite direction. Thus it is argued that salaried physicians have fewer incentives to be productive and forthcoming vis-a-vis patients and that the resulting decline in productivity may well increase indirectly the ultimate cost of managing given episodes of illness.

Conclusive evidence on these theses and counter theses is hard to come by in the United States, because the potential for the aforementioned preselection bias casts doubt on any observed differences (or absence of differences) between salaried and fee-for-service physicians.

If salaried physicans at a health maintenance organization are seen to be just as productive as fee-for-service physicians, one can still not conclude that fee-for-service physicians would maintain their productivity were they suddenly switched to a salaried basis. Ideally, one would like an experimental design in which a random sample of physicians could be randomly assigned to practices with different payment modes. Only in this way could one be sure to have eliminated all possibility of preselection bias.

Although it is very risky to offer generalization on this issue, for the pluralistic United States it is fair to say that commentators favoring salaried medical practice are more likely members of unions or members of the left wing of the Democratic parties than are observers favoring fee-for-

service practice. The latter mode of payment tends to be favored by politically more conservative spokesmen, by health economists, by the insurance industry and by the medical profession.

Since the processing of claims is the bread-and-butter business of insurance carriers, one ought not expect the industry to favor a compensation method that would substantially reduce the need for its presently large workforce. Physicians, on the other hand, consider it important to maintian a direct link between the individual physicians' work effort and his income. Physicians are undoubtedly also aware that the easy visibility of salaries would make it more difficult to attain the truly high income levels now attainable by them, at least in principle.

Given the opposition of politically powerful interest groups to any major shift towards salaried practice, it is safe to assume that fee-for-service reimbursement will be the predominant mode of physician compensation in the United States in the foreseeable future, along with possibly a gradual secular growth in prepaid capitation.

At the same time, it is doubtful that fee-for-service reimbursement will continue to be administered predominantly on the UCR method. Inherent in that method is a built-in tendency towards fee inflation that is not easily checked. In the absence of an external cap on the so-called "prevailing" cut-off level for fees, the individual physician has nothing to lose from overstating his charges, thus setting the state, along with his colleagues, for a higher "prevailing" level in the next year. As noted earlier, precisely for this reason did the Medicare program constrain the "prevailing" charges it recognizes by an externally calculated economic index. As more and more physician charges are constrained by that index, the Medicare system will effectively change the UCR system to a fixed fee scheduled, albeit one

determined rather haphazardly rather than by careful negotiation. When that stage is reached, the glaring disparities and inequities likely to emerge from the haphazardly concocted fee schedulles are likely to trigger negotiations over an alignment of fees. Such negotiated fee schedules are one of the explicit goals of the Health Care Financing Agency which presides over the administration of Medicare.

Just how physician compensation in the rest of the American health care system will evolve in the future is an open question. Currently under discussion is a strategy to make the entire system more price-competitive through the following proposal structure, which in turn is based on a set of beliefs:

1. Employers are mandated to offer their employees a multiple choice of insurance plans with similar coverage. Every employee receives the same employer contribution towards health insurance coverage. The employee therefore has every incentive to select low premium insurance.
2. If one prevents insurers from lowering their premiums through reduced benefit premiums through reduced benefit packages and/or adverse selection of risks, their only recourse is to align themselves with economically efficient providers. This circumstance, it is believed, will force providers to complete on the basis of fees or charges and on the basis of economy in the application of procedures for alliances with insurance carriers.

In such a world, health maintenance organizations would have a comparative advantage. They are therefore thought to provide a cornerstone of the envisaged system. Similarly, one would expect insurance carriers to negotiate, ex ante, fee schedules with physicians to which the latter would

agree to adhere. Although the sytem does not preclude completely the existence of UCR's and the determination of fees at the discretion of the individual physician, one would nevertheless expect negotiated fee schedules to take on a more prominent place in physician compensation than they do now in the United States.

The widespread negotiation of fee schedules would, of course, be a rather novel experience in American medicine. On this point Americans would undoubtedly look abroad for insights from the experience of other health care systems.

Appendix A

New Jersey Blue Shield

The Blue Shield of New Jersey offers both fixed fee schedule policies and UCR policies for physicians fee reimbursement. Prior to 1976, a physician could choose under which system he wished to be reimbursed. However, for physicians who joined the plan after 1976, the acceptance of both methods is mandatory. Although service benefit concept applies to both methods' under fee schedule method, only patients whose income is below a stipulated income ceiling are eligible for service benefit.

New Jersey Blue Shield offers three fixed fee schedule plans and UCR fee program. The UCR fee program is available only to the groups, never direct enrollment of individual subscribers, while both group and individual policies are sold under the fee schedule programs. The three fee schedule plans, Series 500, Series 750 and Series 14/20, are associated with three successively higher fee schedules, each has a given level of the income requirement for service benefit (Table A). The higher the stipulated income ceiling, the higher is the fee reimbursed by the Plan, but the higher will also be the insurance premium for the policy (Table B). While we were not able to obtain the maximum fees allowed under the UCR program, we were informed that UCR fees are, on the average, about 20% higher than those in Series 14/20 fee schedule. All UCR contracts are payment-in-full, service benefit contracts whereas the three fee schedule programs offer service benefit only to those whose incomes are below a stipulated ceiling. Because of the low level of the income ceiling, not many subscribers to fee schedule programs are eligible for service benefit. The participating physicians can, and always, charge the patients who are not qualified for service benefit higher fees than those in

TABLE A

Income Limits for Eligibility for Service Benefits

	single subscriber with single coverage	subscriber with any other type coverage, combining the annual income of sbscriber and spouse (if any)
500 series	6,000	8,500
750 series	7,500	12,000
14/20 series	14,000	20,000

Table B

Schedule of Non-group Quarterly Rates

RATE SCHEDULE D

NON-GROUP CONVERSION

Rider J is available only with BOTH Blue Cross and Blue Shield. The TOTAL Rider J Rate is the sum of the Blue Cross and Blue Shield rate portions.

TYPES OF CONTRACTS	BLUE CROSS				BLUE SHIELD					
					SERIES 500		OR SERIES 750		OR SERIES 14/20	
	MODIFIED COMPREHENSIVE	OR	COMPREHENSIVE	PLUS RIDER J BENEFITS	BASIC BENEFITS	PLUS RIDER J BENEFITS	BASIC BENEFITS	PLUS RIDER J BENEFITS	BASIC BENEFITS	PLUS RIDER J BENEFITS
SINGLE (S)	$ 37.05	OR	$ 63.15	$ 1.74	$ 7.68	$ 4.32	$ 10.62	$ 4.71	$ 15.60	$ 5.40
PARENT & CHILD(REN) (PC)	$ 72.39	OR	$ 90.84	$ 3.27	$ 16.32	$ 6.54	$ 23.13	$ 7.14	$ 33.96	$ 8.19
FAMILY (F)	$ 92.79	OR	$ 125.94	$ 4.38	$ 25.95	$ 9.99	$ 37.14	$ 10.98	$ 54.51	$ 12.60
HUSBAND & WIFE (HW)	MUST Apply For Family Contract Only (See line above)				$ 21.03	$ 9.99	$ 30.03	$ 10.98	$ 44.07	$ 12.60

the fee schedule. In fact, New Jersey Blue Shield has stopped selling Series 500 policies, although still honoring the existing policies, because of the extremely meager coverages. Currently the Plan is gradually phasing out the fee schedule programs, and switching to join the rest of the country to adopt the UCR method to pay physicians services. The UCR method was not widely practiced by New Jersey Blue Shield until 1976 in response to popular request by trade unions. Among the subscribers to UCR fee payment programs are Ford Motor Co., General Motors Corp., U.S. Steel Corp. and Bell System. UCR program currently accounts for 20% of the total physicians expense contracts, Series 500, Series 750 and Series 14/20 respectively accounts for 15%, 40% and 25% of the total contracts sold by the Plan for protection against physicians' expenses.

The fee schedule for Series 500 was developed in the 1960s and the fees have remained unchanged since. Series 750 was introduced in October 1973; like Series 500, the fees also remained fixed. The maximum plan payments in Series 750 fee schedule are, on average, about 50% higher than the fees in Series 500. Series 14/20, introduced in 1978, was the newest fee schedule program. The maximum plan payment in Series 14/20 fee schedule are, on average, about 33% higher than those in Series 750, or approximately double those in Series 500. Table C summarizes the characteristics of the three fee schedule program and the UCR program. Approximately 75% of all New Jersey physicians participated in Blue Shield, and Blue Shield's enrollment accounts for about 50% of the State's population. Tables D and E list the participating and nonparticipating physicians by specialities and by geographical regions for the fee schedule program. Tables F and G list similar information for the Blue Shield's UCR fee program.

TABLE C-4

SUMMARY OF PHYSICIAN COMPENSATION SYSTEMS OF BLUE SHIELD OF NEW JERSEY

PHYSICIAN PAYMENT PROGRAMS	MAXIMUM INCOME LEVEL FOR THE DETERMINATION OF "SERVICE BENEFIT" ELIGIBILITY	COMPARISON OF BLUE SHIELD PAYMENT LEVELS	PERCENTAGE DISTRIBUTION OF SUBSCRIBERS	EXTRA BILLINGS
A. Fixed Fee Programs (Using fee sched.)				
1. Series 500 Program	Single Income $ 6,000 Family Income $ 8,500	Lowest maximum plan payments allowed among all Blue Shield programs	15%	Participating phys. can charge his pat. the difference bet. the Blue Shield fees as listed in the respective fee schedules and his billed charges if the pat.'s income exceeds the stipulated maximum income level.
2. Series 750 Program	Single Income $ 7,500 Family Income $12,000	On average, 50% higher than the 500 program fee schedule	40%	
3. Series 14/20 Program	Single Income $14,000 Family Income $20,000	On average, 33 1/3% higher than the 750 Program fee schedule	25%	
B. UCR Fee Program (Using UCR Method)	All UCR contracts are payment-in-full or "service benefit" contracts. No maximum income level stipulated for eligibility. Available only to groups, not to individual subscribers.	On average, 20% higher than 14/20 Program fee schedule	20%	Participating phys. has to accept UCR fees as payment-in-full. No extra billing is allowed.

N.J. PARTICIPATING AND NON-PARTICIPATING PHYSICIANS BY SPECIALTY

TABLE D

FIXED FEE

DATE 3-31-81

SPECIALTY	TOTAL ELIG. PHYS.	PARTICIPATING					NON-PARTICIPATING					%P.P. AS OF 3-31-81	%P.P. AS O 12-30-
		TOTAL	M.D.	D.O.	D.P.M.	LAB.	TOTAL	M.D.	D.O.	D.P.M.	LAB		
ANES.	626	404	378	26			222	218	4			64.5	64.7
DERM. SYPH.	229	133	127	6			96	95	1			58.1	58.5
INT. MED.	2489	1934	1832	102			555	553	2			77.7	77.3
NEUR. SURG.	103	82	81	1			21	21				79.6	79.6
OBST. GYN.	983	783	750	33			200	197	3			79.7	80.1
OPHTH.	450	279	276	3			171	171				62.0	61.6
ORTH. SURG.	469	315	303	12	-		154	152	2			67.2	67.7
OTOL.	258	172	164	8			86	84	2			66.7	67.4
TH.	188	149	142	7			39	39				79.3	79.4
PED.	922	805	791	14			117	117				87.3	87.0
PHYS. MED.	64	52	46	6			12	11	1			81.3	79.4
PLAST. SURG.	100	41	41				59	59				41.0	41.6
ANALY. LABS.	90	53				53	37				37	58.9	60.2
PROCT.	46	23	15	8			23	23				50.0	50.0
PSY.& NEURO.	928	671	652	19			257	256	1			72.3	73.0
RADI-OLOGY	455	343	316	27			112	111	1			75.4	76.3
SURG.	1034	826	790	36			208	208				79.9	80.0
THOR. SURG.	111	86	85	1			25	25				77.5	78.1
UROL.	264	181	175	6			83	83				68.6	67.8
DIATRY	529	483			483		46			46		91.3	91.5
GENERAL	2500	2155	1637	518			345	276	69			86.2	86.9
OTAL	12838	9970	8601	833	483	53	2868	2680					

N.J PARTICIPATING AND NON-PARTICIPATING PHYSICIANS BY COUNTY

TABLE E
FIXED FEE

DATE 3-31-81

COUNTY	TOTAL ELIG. PHYS.	PARTICIPATING					NON-PARTICIPATING					%P.P. AS OF 3-31-81	%P. AS 12-
		TOTAL	M.D.	D.O.	D.P.M.	LAB.	TOTAL	M.D.	D.O.	D.P.M.	LAB.		
ATLANTIC	333	312	260	28	23	1	21	19	1		1	93.7	93
BERGEN	1678	881	762	63	50	6	797	761	18	12	6	52.5	53
BURLINGTON	444	410	319	70	19	2	34	27	6	1		92.3	9
CAMDEN	930	837	534	242	59	2	93	75	13	3	2	90.0	89
CAPE MAY	103	95	68	20	5	2	8	7	1			92.2	9
CUMBERLAND	185	178	159	12	7		7	6			1	96.2	96
ESSEX	1909	1541	1429	37	68	7	368	354	7	3	4	80.7	8
GLOUCESTER	217	198	126	55	14	3	19	14	4		1	91.2	9
9 HUDSON	972	826	766	20	37	3	146	134	3	4	5	85.0	8
10 HUNTERDON	89	67	64		3		22	22				75.3	7
11 MERCER	661	524	484	14	25	1	137	132	4		1	79.3	79
12 MIDDLESEX	864	646	593	20	28	5	218	205	3	4	6	74.8	7
13 MONMOUTH	763	588	538	27	23		175	166	4	3	2	77.1	7
14 MORRIS	687	546	487	32	21	6	141	136	3	1	1	79.5	8
15 OCEAN	389	255	213	25	16	1	134	122	10	1	1	65.6	6
16 PASSAIC	702	542	490	25	23	4	160	150	4	5	1	77.2	7
17 SALEM	71	69	53	13	2	1	2	2				97.2	9
18 SOMERSET	287	231	214	7	8	2	56	53	1	1	1	80.5	8
19 SUSSEX	98	88	79	7	2		10	8		2		89.8	8
20 UNION	954	691	597	52	37	5	263	253	1	6	3	72.4	7
21 WARREN	98	90	81	7		2	8	8				91.8	9
22 OUT OF STATE	404	355	285	57	13		49	45	3		1	87.9	8
TOTAL	12838	9970	8601	833	483	53	2868	2699	86	46	37	77.7	7

N.J. PARTICIPATING AND NON-PARTICIPATING PHYSICIANS BY SPECIALTY

TABLE F

USUAL, CUSTOMARY OR REASONABLE FEE

DATE 3-31-81

SPECIALTY	TOTAL ELIG. PHYS.	PARTICIPATING					NON-PARTICIPATING					%P.P. AS OF 3-31-81	%P.P. AS OF 12-30
		TOTAL	M.D.	D.O.	D.P.M	LAB.	TOTAL	M.D.	D.O.	D.P.M.	LAB		
ANES.	626	361	336	25			265	260	5			57.7	57.5
DERM. SYPH.	229	122	116	6			107	106	1			53.3	52.7
INT. MED.	2489	1821	1723	98			668	662	6			73.2	72.4
NEUR. SURG.	103	65	64	1			38	38				63.1	60.2
OBST. GYN.	983	713	682	31			270	265	5			72.5	72.8
OPHTH.	450	273	272	1			177	175	2			60.7	59.2
ORTH. SURG.	469	270	258	12			199	197	2			57.6	57.6
OTOL.	258	159	150	9			99	98	1			61.6	62.1
PATH.	188	117	113	4			71	68	3			62.2	61.3
PED.	922	738	724	14			184	184				80.0	79.5
PHYS. MED.	64	44	39	5			20	18	2			68.8	66.7
PLAST. SURG.	100	37	37				63	63				37.0	37.6
ANALY. LABS.	90	37				37	53				53	41.1	40.9
PROCT.	46	24	17	7			22	21	1			52.2	50.0
PSY.& NEURO.	928	636	617	19			292	291	1			68.5	69.0
RADIOLOGY	455	321	297	24			134	130	4			70.5	71.0
SURG.	1034	753	718	35			281	280	1			72.8	72.3
THOR. SURG.	111	80	79	1			31	31				72.1	71.9
UROL.	264	178	172	6			86	86				67.4	65.9
PODIATRY	529	446			446		83			83		84.3	83.1
GENERAL	2500	1834	1375	459			666	538	128			73.4	73.7
)TAL	12838	9029	7789	757	446	37	3809	3511	162	83	53	70.3	70.0

USUAL, CUSTOMARY OR REASONABLE FEE

DATE 3-31-81

TABLE G

COUNTY	TOTAL ELIG. PHYS.	PARTICIPATING TOTAL	M.D.	D.O.	D.P.M.	LAB.	NON-PARTICIPATING TOTAL	M.D.	D.O.	D.P.M.	LAB.	%P.P. AS OF 3-31-81	%P. AS
ATLANTIC	333	292	245	26	21		41	34	3	2	2	87.7	87.
BERGEN	1678	768	675	47	44	2	910	848	34	18	10	45.8	45.
BURLINGTON	444	384	299	66	17	2	60	47	10	3		86.5	85.
CAMDEN	930	787	497	231	57	2	143	112	24	5	2	84.6	83.
CAPE MAY	103	81	58	17	5	1	22	17	4		1	78.6	78.
CUMBERLAND	185	170	151	12	7		15	14			1	91.9	91.
ESSEX	1909	1401	1306	29	60	6	508	477	15	11	5	73.4	72.
GLOUCESTER	217	188	118	54	14	2	29	22	5		2	86.6	86.
HUDSON	972	770	717	18	33	2	202	183	5	8	6	79.2	79.
[illegible]TERDON	89	61	58		3		28	28				68.5	69.
MERCER	661	486	447	13	25	1	175	169	5		1	73.5	73.
MIDDLESEX	864	581	529	20	29	3	283	269	3	3	8	67.2	67.
MONMOUTH	763	506	463	22	21	–	257	241	9	5	2	66.3	66.
MORRIS	687	477	421	30	20	6	210	202	5	2	1	69.4	68.
OCEAN	389	243	203	24	16		146	132	11	1	2	62.5	62.
PASSAIC	702	496	450	24	21	1	206	190	5	7	4	70.7	69.7
SALEM	71	68	53	12	2	1	3	2	1			95.8	95.
SOMERSET	287	208	193	7	7	1	79	74	1	2	2	72.5	73.4
SUSSEX	98	82	74	7	1		16	13		3		83.7	83.8
UNION	954	630	547	48	30	5	324	303	5	13	3	66.0	66.3
W[illegible]EN	98	87	78	7		2	11	11				88.8	89.4
OUT OF STATE	404	263	207	43	13		141	123	17		1	65.1	66.4
OTAL	12838	9029	7789	757	446	37	3809	3511	162	83	53	70.3	70.0

FOOTNOTES

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2. Health Insurance Institute, *Source Book of Health Insurance Data, 1978-1979*, Washington, D.C., p. 12.

3. Carroll, M. S. and Arnett III, R. H., "Private Health Insurance Plans in 1978 and 1979: A Review of Coverage, Enrollment, and Financial Experience." *Health Care Review*, September 1981, pp. 55-87.

4. See footnote 3.

5. Greenberg, W., "A Perspective on Cost Containment" in *National Health Issues*, Hoffman-LaRoche, Inc., p. 5.

6. Charles Cameron, Ph.D. Candidate at Woodrow Wilson School made a significant contribution to the history of the section on third parties.

7. Much information contained here on "Blues" and several other places are kindly provided by Dr. Marvin Shapiro, Chairman of the Board, National Blue Cross and Blue Shield Association.

8. *HIAA Source Book of Health Insurance Data*, 1980-81, pp. 14-15.

9. Business Week, "A health insurer that needs a cure," pp. 158-164, May 10, 1982.

10. Health Insurance Institute, "New Group Health Insurance, 1975-1980," Washington, D.C., 1981.

11. Currently about 4% of the U.S. population are covered by HMO. The organizational forms under the HMO label may vary from one which owns its own ambulatory and inpatient facility and employs physicians on a salaried basis (e.g., Kaiser) to one which owns neither ambulatory nor inpatient facilities and contracts with both types of free standing facilities to render its medical services. Under the latter arrangement, the contract between patient and HMO would be based on prepaid capitation while the contracts between HMO and providers can take on any number of alternative forms from fee-for-service to capitation.

12. Cambridge Research Institute, *Trends Affecting the U.S. Health Care System*, DHEW Publication No. HRA 76-14503, pp. 182-184.

13. Health Insurance Institute, *Source Book of Health Insurance Data 1979-1980*, Washington, D.C., p. 9.

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15. Somers, Ann, Health Care in Transition, Chicago, IL: Hospital Research and Educational Trust, 1971, p. 60.

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18. Blumberg, M. S., "Physician Fee as Incentives," in Changing the Behavior of the Physician: A Management Perspective, Proceedings of the twenty-first Annual Symposium on Hospital Affairs, June 1979, pp. 20-32.

19. Blumberg, M. S., "Rational Provider Prices, An Incentive for Improved Health Delivery," September 3, 1977 for publication in Health Handbook, George Chako, ed., North Holland Publishing Co., 1978, p. 3. His estimates are based on figures derived from Profile of Medical Practice 1973, Chicago, Ill., Vakovich, S. G., ed., American Medical Association.

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25. See Showstack et al. (1979), p. 24.

26. See Showstack et al., "Fee-for-Service Physician Payment: Analysis of Current Methods and Their Development," Inquiry, Vol. XVI, No. 3, Fall 1979, p. 244.

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33. Health Care Financing Administration, p. 11.

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37. Blumberg, M. S., *op cit*.

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39. See Burney, I. L., Schieber, G. J., *et al*. (footnote 10). However, the magnitude of the effect of locational choice incentives is hard to estimate. According to Gabel and Redisch (footnote 8), for example, "voluminous research has identified many factors that influence the physician location decision. Most of this research is in agreement that financial factors are of minor importance in the physician location choice. However, these studies usually assess the effects of small changes in financial incentives. The principal lesson from the literature may be that . . . 'fine tuning' of the physician reimbursement mechanism will not significantly change the existing physician distribution." (Gabel and Redisch, p. 51).

40. Gabel and Redisch, (see footnote 8), pp. 47-48.

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46. Charles Cameron, a Ph.D. candidate at Woodrow Wilson School contributed substantially to the writing of this section.

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65. See footnote 56, pp. 19-21, footnote 57, p. 28 and also Dyckman, Zackery, "Discussion" in U.S. DHEW, The Target Income Hypothesis and Related Issues in health Manpower Policy, (HRA 80-27), 1980, p. 97.

66. See example on West German physicians, Reinhardt 1978 (footnote 59), pp. 175-177.

67. Footnote 59, p. 133.

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79. This section is based on U. Reinhardt's 1982 paper presented at Bosch Foundation.

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